Water Resources Data
Missouri
Water Year 1984

COMPLETED

U.S. GEOLOGICAL SURVEY WATER-DATA REPORT MO-84-1
Prepared in cooperation with the Missouri Department of
Natural Resources, Divison of Geology and Land Survey and
Division of Environmental Quality; Missouri State Highway
Commission; and with other State and Federal agencies

CALENDAR FOR WATER YEAR 1984

1983

OCTOBER

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1984

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Water Resources Data Missouri

Water Year 1984

by L.A. Waite, J.V. Davis, H.L. Reed, D.O. Hatten, and T.J. Perkins

U.S. GEOLOGICAL SURVEY WATER-DATA REPORT MO-84-1

Prepared in cooperation with the Missouri Department of Natural Resources, Division of Geology and Land Survey and Division of Environmental Quality; Missouri State Highway Commission; and with other State and Federal agencies

UNITED STATES DEPARTMENT OF THE INTERIOR

Donald Paul Hodel, Secretary

GEOLOGICAL SURVEY

Dallas L. Peck, Director

For information on the water program in Missouri write to:
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1985

PREFACE

This hydrologic-data report for Missouri is one of a series of annual reports that document hydrologic data gathered from the U.S. Geological Survey's surface- and ground-water data collection networks in each State, Puerto Rico, and the Trust Territories These records of streamflow, ground-water levels, and quality of water provide the hydrologic information needed by local, State, and Federal agencies, and the private sector for developing and managing our Nation's land and water resources.

This report is the culmination of a concerted effort by personnel of the U.S. Geological Survey who collected, compiled, analyzed, verified, and organized the data and who typed, edited and assembled the report. In addition to the authors, who had primary responsibility for assuring that the information is accurate, complete, and adheres to Geological Survey policy and established guidelines, the following individuals contributed significantly to the collection, processing, and tabulation of the data:

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Water resources data for the 1984 water year for Missouri consist of records of stage, discharge, and water quality of lakes and reservoirs; contains records for water discharge at 112 gaging stations; stage and contents at 9 lakes and reservoirs; water quality at 71 sampling stations (including 1 lake) and data for 35 crest-stage stations.

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(Letter after station name designates type of data: (d) discharge, (c) chemical, (m) microbiological, (t) water temperature, and (s) sediment)

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INTRODUCTION

The U.S. Geological Survey, in cooperation with State, Federal, and local agencies and organizations, obtains a large quantity of data pertaining to the water resources of Missouri each water year (Oct. 1 to Sept. 30). These data, accumulated during many water years, constitute a valuable data base for developing an improved understanding of the water resources of Missouri. To make these data readily available to interested parties outside the Geological Survey, the data are published annually in this report series entitled "WATER RESOURCES DATA FOR MISSOURI." This volume contains records for water discharge at 112 gaging stations; stage and contents at 9 lakes and reservoirs; water quality at 72 sampling stations (including 1 lake); and data for 35 crest-stage stations.

Records of discharge and stage of streams, and contents or stage of lakes and reservoirs were first published in a series of U.S. Geological Survey Water-Supply Papers entitled, "Surface Water Supply of the United States." Through September 30, 1960, these Water-Supply Papers were in an annual series and then in a 5-year series for 1961-65 and 1966-70. Records of chemical quality, water temperatures, and suspended sediment were published from 1941 to 1970 in an annual series of Water-Supply Papers entitled, "Quality of Surface Waters of the United States." Records of ground-water levels were published from 1935 to 1974 in a series of Water-Supply Papers entitled, "Ground Water Levels in the United States." Water-Supply Papers are in the libraries of the principal cities in the United States or may be purchased from the Eastern Distribution Branch, Text Products Section, U.S. Geological Survey, 604 South Pickett Street, Alexandria, VA 22304.

For water years 1961 through 1974, streamflow data were released by the Geological Survey in annual reports on a State-boundary basis. Water-quality records for water years 1964 through 1974 were similarly released either in separate reports or in conjunction with streamflow records.

Beginning with the 1975 water year, water data for streamflow, water quality, and ground water are published in official Survey reports on a State-boundary basis. These official Survey reports carry an identification number consisting of the two-letter State abbreviation, the last two digits of the water year, and the volume number. For example, this volume is identified as "U.S. Geological Survey Water-Data Report MO-84-1." For archiving and general distribution, the reports for water year 1971-74 also are identified as water-data reports. These water-data reports are for sale in paper copy or in microfiche by the National Technical Information Service, U.S. Department of Commerce, Springfield, VA 22161.

Additional information, including current prices, for ordering specific reports may be obtained from the district chief at the address given on the back of the title page or by telephone (703) 487-4650.

COOPERATION

The U.S. Geological Survey and organizations of the State of Missouri have had cooperative agreements for the systematic collection of streamflow records since 1921, and for water-quality records since 1964. Organizations that assisted in collecting data through cooperative agreement with the Survey are:

Missouri Department of Natural Resources,
    Dr. Frederick A. Brunner, Director.

    Division of Geology and Land Survey,
        Dr. Wallace B. Howe, Director.

    Division of Environmental Quality,
        Robert J. Schrieber, Jr., Director.

Missouri State Highway and Transportation Commission,
    Robert N. Hunter, Chief Engineer.

City Utilities of Springfield,
    R. David Plank, Manager. Engineering Division.

The following Federal and State agencies and organizations assisted in collection of records published in this report by providing funds or services:

U.S. Army, Corps of Engineers, in collecting records for
    87 gaging stations and 1 water-quality station.

U.S. Department of Commerce, National Weather Service.
    National Oceanic and Atmospheric Administration.

National Park Service, Midwest Region

Little River Drainage District;

Union Electric Company of Missouri;

Missouri Park Board.

PHYSIOGRAPHY

Missouri has three distinct physiographic divisions--a Plains division in the north and west, the Southeast Lowlands division, and between them the Ozarks division (fig. 1).

The Plains division includes most of the area north of the Missouri River and a large part of the area south of the river in the western part of the State. Elevations range from about 450 to 1,000 feet above sea level. The area has numerous wide, flat valleys incised by rivers.

The Ozarks division in the southern part of the State is a wooded, rugged area of deep, narrow valleys with sharp ridges separating the valleys. Elevations range from about 1,000 to 1,600 feet above sea level.

The Southeast Lowlands division is a relatively flat region of about 3,000 square miles and is located in the extreme southeast part of the State. Elevations range from about 200 to 300 feet above sea level. The area is well drained and contains excellent farmland.

HYDROLOGIC CONDITIONS

Precipitation was greater than normal across the entire State during the 1984 water year. The normal precipitation for the standard period 1941-70 was about 36 inches in the northwest to 47 inches in the southeast. Precipitation data for the six National Weather Service divisions in Missouri are shown in table 1.

Table 1.--Precipitation and departures from normal, in inches

National Weather Service Division (fig. 2)	October-March		April-September		1984 Water Year	
	Precipitation	Departure from normal	Precipitation	Departure from normal	Precipitation	Departure from normal
Northwest Prairie	17.01	+5.63	22.81	-1.89	39.82	+3.74
Northeast Prairie	22.50	+8.97	22.98	+0.39	45.48	+9.36
West Central Plains	24.75	+10.74	21.72	-2.75	46.47	+7.99
West Ozarks	26.05	+10.04	20.26	-3.93	46.31	+6.11
East Ozarks	27.58	+9.34	23.41	+0.18	50.99	+9.52
Bootheel	28.68	+5.96	23.12	-0.94	51.80	+5.02

Streamflow

Streamflow generally reflects precipitation patterns unless a stream is regulated. Both monthly mean discharges during the 1984 water year and long-term monthly mean discharges at representative stations are shown in figure 2. Streamflow during many months was greater than long-term means reflecting the greater-than-normal precipitation (table 1). Mean annual discharges were greater than long-term annual discharges statewide.

Listed in table 2 are 17 selected gaging stations comparing the peak discharge for the period of record and the peak discharge for the 1984 water year. The 7-day low flow for the 1984 water year is compared to the 7-day 2-year low flow for selected stations in table 3. The 7-day, 2-year low flow is the 7-day average minimum flow with a recurrence interval of 2 years.

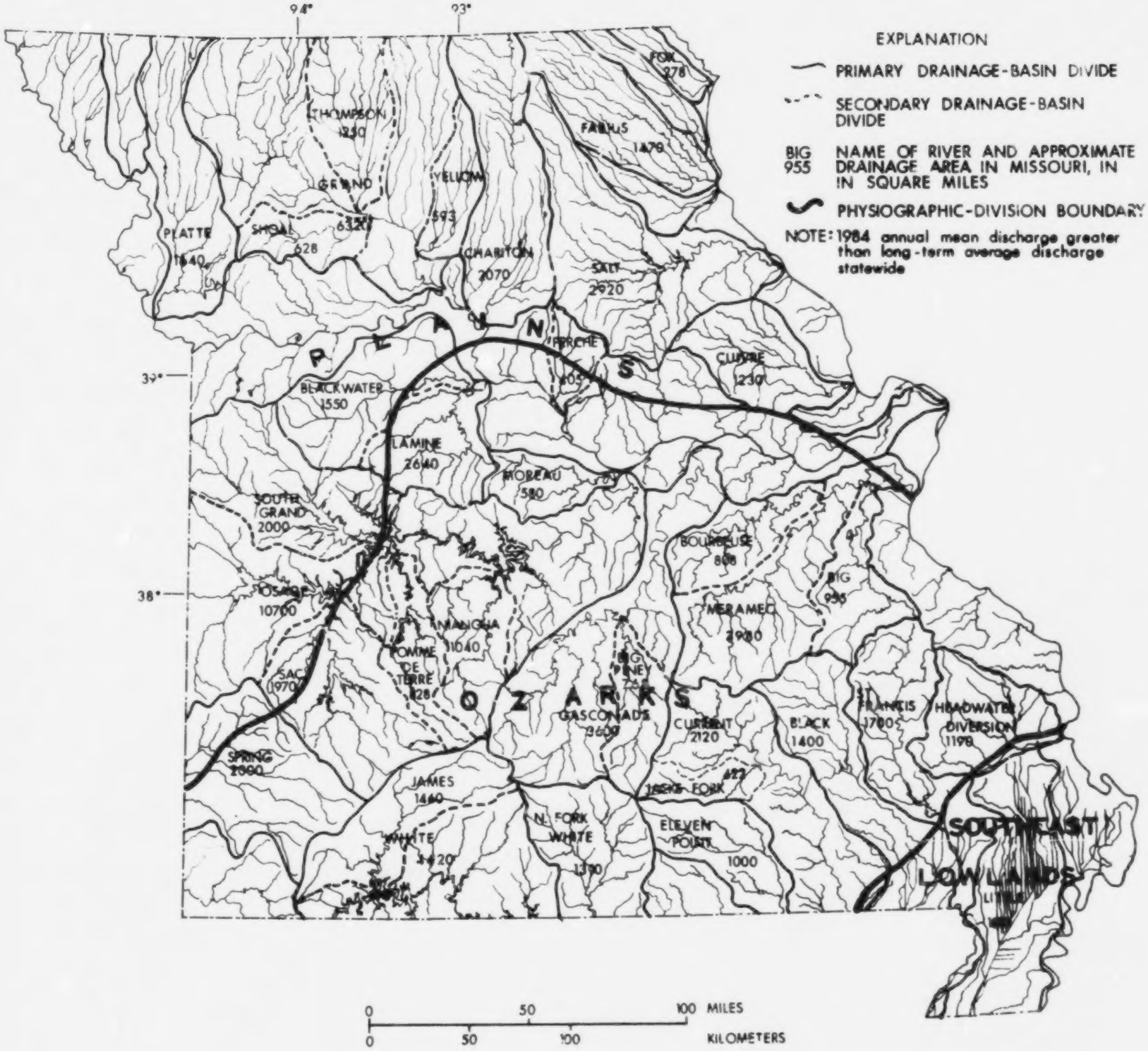
94°
93°
39°
38°
EXPLANATION
PRIMARY DRAINAGE-BASIN DIVIDE
SECONDARY DRAINAGE-BASIN DIVIDE
BIG 955 NAME OF RIVER AND APPROXIMATE DRAINAGE AREA IN MISSOURI, IN SQUARE MILES
PHYSIOGRAPHIC-DIVISION BOUNDARY
NOTE: 1984 annual mean discharge greater than long-term average discharge statewide
FOX 278
THOMPSON 1250
FABIUS 1470
GRAND 6320
YELLOW 593
PLATTE 1640
SHOAL 628
CHARITON 2070
SALT 2920
PLAINS
PERCHE 305
CUIVRE 1230
BLACKWATER 1550
LAMINE 2640
MOREAU 580
SOUTH GRAND 2000
BOURBEUSE 808
BIG 955
OSAGE 10700
NIANGUA 1040
MERAMEC 2980
POMME DE TERRE 828
BIG PINEY 726
SAC 1970
OZARKS
GASCONADE 3600
CURRENT 2120
BLACK 1400
ST. FRANCIS 1700
HEADWATER DIVERSION 1190
SPRING 2000
JAMES 1460
JACKS FORK 427
N. FORK WHITE 1370
ELEVEN POINT 1000
WHITE 1420
SOUTHEAST LOWLANDS
LITTLE
0 50 100 MILES
0 50 100 KILOMETERS

Figure 1.--Major drainage basins and physiographic divisions.

Table 2.--Comparisons of peak discharge for the 1984 water year with those for period of record for selected stations

Station identification		Peak discharge during 1984 water year		Peak discharge for period of record	
		Cubic feet per second	Date	Cubic feet per second	Date
05508000	Salt River near New London	15,100	Apr. 9	107,000	Apr. 22, 1973
05587500	Mississippi River at Alton, IL	305,000	Apr. 25	535,000	Apr. 29, 1973
06818000	Missouri River at St. Joseph	198,000	June 16	397,000	Apr. 22, 23, 1952
06893000	Missouri River at Kansas City	241,000	June 11	573,000	July 14, 1951
06893890	East Fork Little Blue River near Blue Springs	2,870	June 9	6,100	Sept. 13, 1977
06894000	Little Blue River near Lake City	12,000	June 9	42,300	Aug. 13, 1982
06895500	Missouri River at Waverly	245,000	June 23	549,000	July 16, 1951
06897500	Grand River near Gallatin	39,000	June 10	69,100	June 24, 1947
06905500	Chariton River near Prairie Hill	26,000	June 9	31,900	Apr. 23, 1973
06909000	Missouri River at Boonville	285,000	June 13	550,000	July 17, 1951
06934500	Missouri River at Hermann	314,000	Apr. 23	676,000	June 6, 7, 1903
07010000	Mississippi River at St. Louis	579,000	Apr. 24	1,019,000	June 10, 11, 1903
07016500	Bourbeuse River at Union	16,600	Mar. 7	77,000	Dec. 5, 1982
07018500	Big River at Byrnesville	15,000	Nov. 25	42,100	July 1, 1957
07019000	Meramec River near Eureka	28,300	Apr. 23	145,000	Dec. 6, 1982
07020500	Mississippi River at Chester, IL	605,000	Apr. 25	886,000	July 3, 1947 Apr. 30, 1973
07022000	Mississippi River at Thebes, IL	632,000	Apr. 27	893,000	May 27, 1943

Table 3.--Comparisons of 1984 7-day low flows to 7-day, 2-year low flows and minimum daily flows for the period of record at selected stations.

[Flows in cubic feet per second]

Station identification and period of record (water years) used	Average 7-day low flows		Minimum daily flows for period of record used	
	1984	2-year	Discharge	Year of occurrence
05495000 Fox River at Wayland (1922-81)	1.5	1.3	0	Several years
06813000 Tarkio River at Fairfax (1922-81)	27	9.0	0	Several years
06921070 Pomme de Terre River near Polk (1968-81)	4.5	3.0	0.3	1980
07016500 Bourbeuse River at Union (1921-81)	42	32	11	1956
07067000 Current River at Van Buren (1912-81)	795	700	473	1956
07187000 Shoal Creek above Joplin (1941-81)	89	92	12	1954

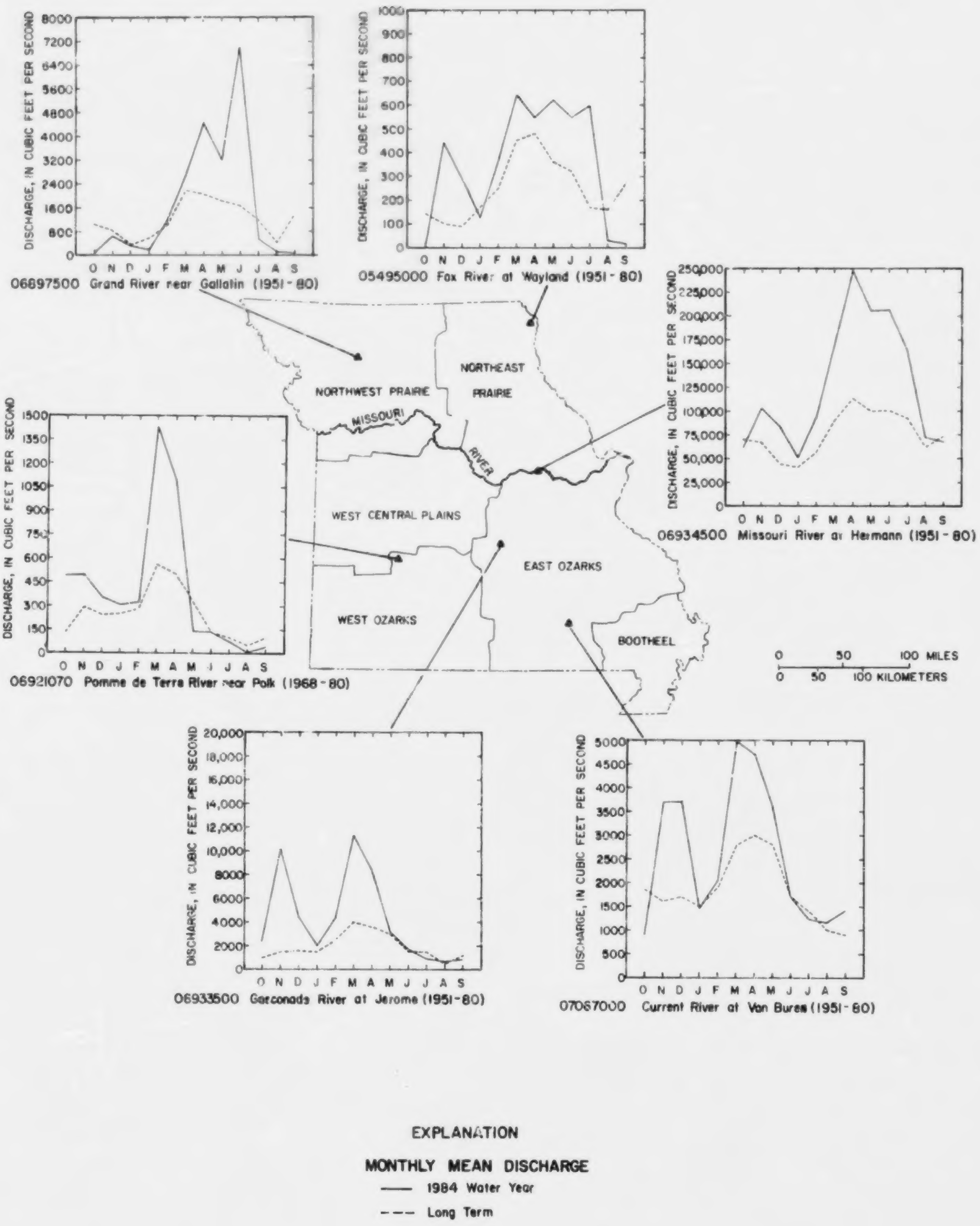

Figure 2.--Comparison of 1984 water-year streamflow to long-term means.

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Chemical Quality of Streamflow

Quality of water samples were collected at 71 stations in Missouri. Data collected at these stations include some or all of the following properties or constituents: water temperature, specific conductance, dissolved oxygen, pH, alkalinity, inorganic constituents, nutrients, trace metals, biological, radiochemical, sediment, and streamflow. Water-quality data did not indicate unusual changes during the year.

Missouri streams for the most part are not contaminated by industrial wastes. Localized stream pollution does occur near urban areas, industrialized centers, agricultural-chemical-use areas, and waste dump sites. Ranges in dissolved-solids concentrations in selected streams are given in the following table:

Station identification	Milligrams per liter	
	Minimum	Maximum
Missouri River at Hermann	200	511
Missouri River at St. Joseph	370	548
Des Moines River at St. Francisville	289	516
Grand River near Sumner	133	299
Center Creek near Carterville	170	260

Daily suspended-sediment samples were collected at 14 stations in Missouri. At 10 of these stations particle-size data of suspended sediment also were obtained. Suspended-sediment concentration in streams generally is greater in the Plains agricultural area than in the Ozarks wooded area. The following table lists two selected stations in the Plains followed by two selected stations in the Ozarks and their respective daily mean suspended-sediment concentrations:

Station identification	Milligrams per liter	
	Minimum	Maximum
Middle Fork Salt River at Paris	8	2,610
Salt River near New London	7	1,370
Meramec River near Eureka	2	1,980
Little Black River below Fairdealing	1	273

DOWNSTREAM ORDER AND STATION NUMBER

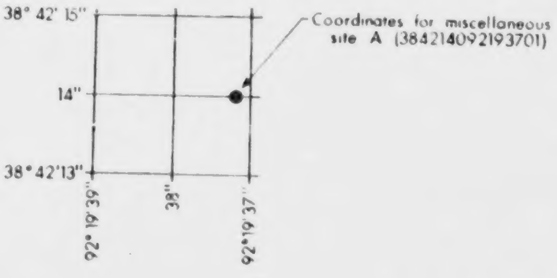
Since October 1, 1950, the order of listing hydrologic-station records in Survey reports is in a downstream direction along the main stream. All stations on a tributary entering upstream from a mainstream station are listed before that station. A station on a tributary that enters between two mainstream stations is listed between them. A similar order is followed in listing stations on first rank, second rank, and other ranks of tributaries. The rank of any tributary on which a station is situated with respect to the stream to which it is immediately tributary is indicated by an indention in a list of stations in the front of the report. Each indention represents one rank. The downstream order and system of indention show which stations are on tributaries between any two stations and the rank of the tributary on which each station is situated.

As an added means of identification, each hydrologic station and partial-record station has been assigned a station number. These are in the same downstream order used in this report. In assigning station numbers, no distinction is made between partial-record stations and other stations; therefore, the station number for a partial-record station indicates downstream-order position in a list made up of both types of stations. Gaps are left in the series of numbers to allow for new stations that may be established; hence, the numbers are not consecutive. The complete 8-digit number for each station such as 06909000, which appears just to the left of the station name, includes the 2-digit part number "06" plus the 6-digit downstream order number "909000".

NUMBERING SYSTEM FOR MISCELLANEOUS SITES

The 8-digit downstream order station numbers are not assigned to miscellaneous sites where only random water-quality samples or discharge measurements are taken.

The miscellaneous site numbering system of the U.S. Geological Survey is based on the grid system of latitude and longitude. The system provides the geographic location of the miscellaneous sites and a unique number for each site. The number consists of 15 digits. The first 6 digits denote the degrees, minutes, and seconds of latitude, the next 7 digits denote degrees, minutes, and seconds of longitude, and the last 2 digits (assigned sequentially) identify the sites within a 1-second grid. See figure 3 below.



SPECIAL NETWORKS AND PROGRAMS

National stream-quality accounting network (NASQAN) is a data collection network designed by the U.S. Geological Survey to meet many of the information demands of agencies or groups involved in national or regional water-quality planning and management. Both accounting and broad-scale monitoring objectives have been incorporated into the network design. Areal configuration of the network is based on river-basin accounting units (identified by 8-digit hydrologic-unit numbers) designated by the Office of Water Data Coordination in consultation with the Water Resources Council. Primary objectives of the network are (1) to depict areal variability of streamflow and water-quality conditions nationwide on a year-by-year basis and (2) to detect and assess long-term changes in streamflow and stream quality.

Pesticide program is a network of regularly sampled water-quality stations where samples are collected to determine the concentration and distribution of pesticides in streams wahere potential contamination could result from the application of the commonly used insecticides and herbicides. Operation of the network is a Federal interagency activity.

Radiochemical program is a network of regularly sampled water-quality stations where samples are collected to be analyzed for radioisotopes. The streams that are sampled represent major drainage basins in the conterminous United States.

EXPLANATION OF STAGE AND WATER-DISCHARGE RECORDS

Collection and computation of data

The base data collected at gaging stations consist of records of stage and measurements of discharge of streams or canals, and stage, surface area, and contents of lakes or reservoirs. In addition, observations of factors affecting the stage-discharge relation or the stage-capacity relation, weather records, and other information are used to supplement base data in determining the daily flow or volume of water in storage. Records of stage are obtained from either direct readings on nonrecording gage or from a water-stage recorder that gives either a continuous graph of the fluctuations or a tape punched at selected time intervals. Measurements of discharge are made with a current meter, using the general methods adopted by the Geological Survey. These methods are described in standard textbooks, in Water-Supply Paper 888, and in U.S. Geological Survey Techniques or Water Resources Investigations, book 3, chapter A6.

For stream-gaging stations, rating tables giving the discharge for any stage are prepared from stage-discharge relation curves. If extensions to the rating curves are necessary to express discharge greater than measured, they are made on the basis of indirect measurements of peak discharge (such as slope-area or contracted-opening measurements, computation of flow over dams or weirs), step-backwater techniques, velocity-area studies, and logarithmic plotting. The daily mean discharge is computed from gage heights and rating tables, then the monthly and yearly mean discharge are computed from the daily figures. If the stage-discharge relation is subject to change because of frequent or continual change in the physical features that form the control, the daily mean discharge is computed by the shifting-control method, in which correction factors based on individual discharge measurements and notes by engineers and observers are used in applying the gage heights to the rating tables. If the stage-discharge relation for a station is temporarily changed by the presence of aquatic growth or debris on the control, the daily mean discharge is computed by what is basically the shifting-control method.

At some stream-gaging stations the stage-discharge relation is affected by the backwater from reservoirs, tributary streams, or other sources. This necessitates the use of the slope method in which the slope or fall in a reach of the stream is a factor in computing discharge. The slope or fall is obtained by means of an auxillary gage set at some distance from the base gage. At some stations the stage-discharge relation is affected by changing stage; at these stations the rate of change in stage is used as a factor in computing discharge.

At some stream-gaging stations the stage-discharge relation is affected by ice in the winter and it becomes impossible to compute the discharge in the usual manner. Discharge for period of ice effect is computed on the basis of gage-height record and occasional winter discharge measurements. Consideration is given to the available information on temperature and precipitation, notes by gage observers and hydrologists, and comparable records of discharge for other stations in the same or nearby basins.

For a lake or reservoir, capacity tables giving the contents for any stage are prepared from stage-area relation curves defined by surveys. The application of the stage to the capacity table gives the contents, from which the daily, monthly, or yearly change in contents is computed.

If the stage-capacity curve is subject to changes because of deposition of sediemnt in the reservoir, periodic resurveys of the reservoir are necessary to define new stage-capacity curves. During the period between reservoir surveys the computed contents may be increasingly in error due to the gradual accumulation of sediment.

For some gaging stations there are periods when no gage-height record is obtained or the recorded gage height is so faulty that it cannot be used to compute daily discharge or contents. This happens when the recorder stops or otherwise fails to operate properly, intakes are plugged, the float is frozen in the well, or for various other reasons. For such periods the daily discharges are estimated on the basis of recorded range in stage, prior and subsequent records, discharge measurements, weather records, and comparison with records for other stations in the same or nearby basins. Likewise daily contents may be estimated on the basis of operator's log, prior and subsequent records, inflow-outflow studies, and other information.

The data in this report generally comprise a description of the station and tabulation of daily and monthly figures. For gaging stations on streams or canals a table showing the daily discharge and monthly and yearly discharge is given. For gaging stations on lakes and reservoirs a monthly summary table of stage and contents or a table showing the daily contents is given. Tables of daily mean gage heights are included for some streamflow stations and for some reservoir stations. Records are published for the water year, which begins on October 1 and ends on September 30.

The description of the hydrologic-data station gives the location, drainage area, period of record, notations of revisions of previously published records, type and history of gages, general remarks, average discharge, and extremes of discharge or contents. The location of the gaging station and the drainage area are obtained from most accurate maps available. River mileage, given under "LOCATION" for some stations, is that determined and used by the Corps of Engineers or other agencies. Periods for which there are published records for the present station or for stations generally equivalent to the present one are given under "PERIOD OF RECORD."

Previously published streamflow records of some stations have been found to be in error on the basis of data or information later obtained. Revisions of such records are usually published along with the current records in one of the annual or compilation reports. In order to make it easier to find such revised records, a paragraph headed "REVISED RECORDS" has been added to the description of all stations for which revised records have been published. Listed therein are all the reports in which revisions have been published, each followed by the water years for which figures are revised in that report. In listing the water years only one number is given; for instance, 1965 stands for the water year October 1, 1964 to September 30, 1965. If no daily, monthly, or annual figures of discharge are affected by the revision, the fact is brought out by notations after the year dates as follows: "(M)" means that only the instantaneous maximum discharge was revised; "(m)" that only the instantaneous minimum was revised; and "(P)" that only peak discharges were revised. If the drainage area has been revised, the report in which the revised figure was first published is given. It should be noted that for all stations for which cubic feet per second per square mile and runoff in inches are published, a revision of the drainage are necessitates corresponding revision of all figures based on the drainage area. Revised figures of cubic feet per second per square mile and runoff in inches resulting from revision of the drainage area only are usually not published in the annual series of reports.

The type of gage currently in use, the datum of the present gage referred to National Geodetic Vertical Datum; and a condensed history of the types, location, and datums of previous gages used during the period of record are given under "GAGE." National Geodetic Vertical Datum is explained in "DEFINITION OF TERMS" on page 14.

Information pertaining to the accuracy of the discharge records and to conditions which affect the natural flow of the gaging station is given under "REMARKS." For reservoir stations information on the dam forming the reservoir, the capacity, outlet works and spillway, and purpose and use of the reservoir is given under "REMARKS."

The average discharge for the number of years indicated is given under "AVERAGE DISCHARGE"; it is not given for stations having fewer than 5 complete years of record or for stations where changes in water development during the period of record cause the figure to have little significance. In addition, the median of yearly mean discharges is given for stream-gaging stations having 10 or more complete years of record if the median differs from the average by more than 10 percent. Under "EXTREMES" are given first, the extremes for the period of record, second, information available outside the period of record, and last, those for the current year. Unless otherwise qualified, the maximum discharge (or contents) is the instantaneous maximum corresponding to the crest stage obtained by use of a water-stage recorder (graphic or digital), a crest-stage gage, or a nonrecording gage read at the time of the crest. If the maximum gage height did not occur on the same day as the maximum discharge (or contents), it is given separately. Similarly, the minimum is the instantaneous minimum unless otherwise qualified. For some stations peak discharges are listed with "EXTREMES FOR THE CURRENT YEAR"; if they are, all independenct peaks, including the maximum for the year, above the selected base with the time of occurrence and corresponding gage heights are published in tabular format. The base discharge, which is given in the table heading, is selected so that an average of about three peaks a year will be presented. Peak discharges are not published for any canals, ditches, drains, or for any stream for which the peaks are subject to substantial control by man. Time of day is expressed in 24-hour local standard time; for example, 12:30 a.m. is 0030, 1:30 p.m. is 1330. The minimums for these stations are published in a separate paragraph following the table of peaks.

The daily table for stream-gaging stations gives the mean discharge for each day and is followed by monthly and yearly summaries. In the monthly summary below the daily table, the line headed "TOTAL" gives the sum of the daily figures. The line headed "MEAN" gives the average flow in cubic feet per second during the month. The lines headed "MAX" and "MIN" give the maximum and minimum daily discharges, respectively, for the month. Discharge for the month also may be expressed in cubic feet per second per square mile (line headed "CFSM"), or in inches ("line headed "IN"), or in acre-feet (line headed "AC-FT"). Figures for cubic feet per second per square mile and runoff in inches are omitted if there is extensive regulation or diversion, if the drainage area includes large noncontributing areas, or if the average annual rainfall over the drainage basin is usually less than 20 inches. In the yearly summary below the monthly summary, the figures shown are the appropriate daily discharges for the calendar year and water years.

Footnotes to the table of daily discharges are introduced by the "NOTE." Footnotes are used to indicate periods for which the discharge is computed or estimated by special methods because of no gage-height records, backwater from various sources, or other unusual conditions. Periods of no gage-height record are indicated if the period is continuous for a month or more or includes the maximum discharge for the year. Periods of backwater from an unusual source, of indefinite stage-relation, or of any other source, or of any other unusual condition at the gage site are indicated only if they are a month or more in length and the accuracy of the records is affected. Days on which the stage-discharge relation is affected by ice are not indicated. The methods used in computing discharge for various unusual conditions have been explained in preceding paragraphs.

For most gaging stations on lakes and reservoirs the data presented comprise a description of the station and a monthly summary table of stage and contents. For some reservoirs a table showing daily contents or stage is given. A skelton table of capacity at given stages is published for all reservoirs for which records are published on a daily basis, but is not published for reservoirs for which only monthly data are given.

Data collected at partial-record stations follow the information for continuous record sites. Data for partial-record discharge stations are presented in two tables. The first is a table of discharge measurements at low-flow partial-record stations, and the second is a table of annual maximum stage and discharge at crest-stage stations. The tables of partial-record stations are followed by a listing of discharge measurements made at sites other than continuous-record or partial-record stations. Occasionally, a series of discharge measurements are made within a short time period to investigate the sepage gains or losses along a reach of a stream or to detemine the low-flow characteristics of an area. Such measurements are also given in special tables following the tables of partial-record stations.

Accuracy of field data and computed results

The accuracy of streamflow data depends primarily on (1) the stability of the stage-discharge relation or, if the control is unstable, the frequency of discharge measurements, and (2) the accuracy of observations of stage, measurements of discharge, and interpretations of records.

The station description under "REMARKS" states the degree of accuracy of the records. "Excellent" means that about 95 percent of the daily discharges are within 5 percent; "good", within 10 percent; and "fair" within 15 percent. "Poor" means that daily discharges have less than "fair" accuracy.

Figures of daily mean discharge in this report are shown to the nearest hundredth of a cubic foot per second for discharge of less than 1 cfs; to tenths between 1.0 and 10 cfs; to whole numbers between 10 and 1,000 cfs; and to 3 significant figures above 1,000 cfs. The number of significant figures used is based solely on the magnitude of the figure. The same rounding rules apply to discharge figures listed for partial-record stations.

Discharge at many stations, as indicated by the monthly mean, may not reflect natural runoff due to the effects of diversion, consumption, regulation by storage, increase or decrease in evaporation due to artifical causes, or to other factors. For such stations, figures of cubic feet per second per square mile and of runoff in inches are not published unless satisfactory adjustments can be made for diversions, for charges in contents of reservoirs, or for other changes incident to use and control. Evaporation from a reservoir is not included in the adjustments for changes in reservoir contents, unless it is so stated. Even at those stations where adjustments are made, large errors in computed runoff may occur if adjustments or losses are large in comparison with the observed discharge.

Other data available

Information of a more detailed nature than that published for cost of the gaging stations such as observations of water temperatures, discharge measurements, gage-height records, and rating tables is on file in the District Office. Also most gaging-station records are available in computer-usable form and many statistical analyses have been made.

Information on the availability of unpublished data or statistical analyses may be obtained from the District Office.

EXPLANATION OF WATER-QUALITY RECORDS

Collection and examination of data

Surface water samples for analyses usually are collected at or near gaging stations. The quality-of-water records are given immediately following the discharge records at these stations.

The descriptive heading for water-quality records gives the period of record for all water-quality data; the period of daily record for parameters that are measured on a daily basis (specific conductance, pH, dissolved oxygen, water temperature, sediment discharge, etc.); extremes for the period of daily record; extremes for the current year; and general remarks.

For ground-water records, no descriptive statements are given; however, the well number, depth of well, date of sampling and/or orther pertinent data are given in the table containing the chemical analyses of the ground water.

Water Analysis

Most methods for collecting and analyzing water samples are described in the U.S. Geological Survey Techniques of Water-Resources Investigations listed on a following page.

One sample can define adequately the water quality at a given time if the mixture of solutes throughout the stream cross section is homogenous. However, the concentration of solutes at different locations in the cross section may vary widely with different rates of water discharge, depending on the source of material and the turbulence and mixing of the stream. Some streams must be sampled through several vertical sections to obtain a representative sample needed for an accurate mean concentration and for use in calculating load.

Chemical-quality data published in this report are considered to be the most representative values available for the stations listed. The values reported represent water-quality conditions at the time of sampling as much as possible, consistent with available sampling techniques and methods of analysis. In the rare case where an apparent inconsistency exists between a reported pH value and the relative abundance of carbon dioxide species (carbonate and bicarbonate), the inconsistency is the result of a slight uptake of carbon dioxide from the air by the sample between measurement of pH in the field and determination of carbonate and bicarbonate in the laboratory.

For chemical-quality stations equipped with digital monitors, the records consist of daily maximum and minimum values for each constituent measured and are based upon hourly punches beginning at 0100 hours and ending at 2400 hours for the day of record. More detailed records (hourly values) may be obtained from the District Office.

Water Temperature

Water temperatures are measured at most of the water-quality stations. In addition, water temperature are taken at time of discharge measurements for water-discharge stations. For stations where water temperatures are taken manually once daily, the water temperatures are taken at about the same time each day. Large streams have a small daily temperature change; shallow streams may have a daily range of several degrees and may follow closely the changes in air temperature. Some streams may be affected by waste-heat discharges.

At stations where recording instruments are used, maximum and minimum temperatures for each day are published.

Sediment

Suspended-sediment concentrations are determined from samples collected by using depth-integrating samplers. Samples usually are obtained at several verticals in the cross section, or a single sample may be obtained at a fixed point and a coefficient applied to determine the mean concentration in the cross sections.

During periods of rapidly changing flow or rapidly changing concentration, samples may have been collected more frequently (twice daily or, in some instances, hourly). The published sediment discharges for days of rapidly changing flow or concentration were computed by the subdivided day method (time-discharge weighted average). Therefore, for those days when the published sediment discharge value differs from the value computed as the product of discharge times mean concentration time 0.0027, the reader can assume that the sediment discharge for that day was computed by the subdivided day method. For periods when no samples were collected, daily loads of suspended sediment were estimated on the basis of water discharge, sediment concentrations observed immediately before and after the periods, and suspended-sediment loads for other periods of similar discharge.

The daily suspended sediment concentrations at Mississippi River at St. Louis are derived from turbidity reading from the Howard Bend water treatment plant and the East St. Louis water treatment plant. Approximately once a week two depth integrated verticals are taken to adjust the relationship between suspended sediment and turbidity.

DEFINITION OF TERMS

Terms related to streamflow, water-quality, and other hydrologic data, as used in this report, are defined below. See also the table for converting Inch-Pound Units to International System of units (SI) on the inside of the back cover.

Acre-foot (AC-FT, acre-ft) is the quantity of water required to cover 1 acre to a depth of 1 foot and is equivalent to 43,560 cubic feet or about 326,000 gallons or 1,233 cubic meters.

Algae are mostly aquatic single-celled, colonial, or multi-celled plants, containing chlorophyll and lacking roots, steams, and leaves.

Aquifer is a geologic formation, group of formations, or part of a formation that contains sufficient saturated permeable material to yield significant quantities of water to wells and springs.

Bacteria are microscopic unicellular organisms, typically spherical, rodlike, or spiral and threadlike in shape, often clumped into colonies. Some bacteria cause disease, others perform an essential role in nature in the recycling of materials; for example, by decomposing organic matter into a form available for reuse by plants.

Fecal coliform bacteria are bacteria that are present in the intestines or feces of warm-blooded animals. They are often used as indicators of the sanitary quality of the water. In the laboratory they are defined as all organisms which produce blue colonies within 24 hours when incubated at 44.5°C ± 0.2°C on M-FC medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample.

Fecal streptococcal bacteria are bacteria found also in intestines of warm-blooded animals. Their presence in water is considered to verify fecal pollution. They are characterized as gram-positive, cocci bacteria which are capable of growth in brain-heart infusion broth. In the laboratory they are defined as all the organisms which produce red or pink colonies within 48 hours at 35°C ± 1.0°C on M-enterrococcus medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample.

Bed material is the unconsolidated material of which a streambed, lake, pond, reservoir, or estuary bottom is composed.

Biomass is the amount of living matter present at any given time, expressed as the mass per unit area or volume of habitat.

Ash mass is the mass or amount of residue present after the residue from the dry mass determination has been ashed in a muffle furnace at a temperature of 500°C for 1 hour. The ash mass values of zooplankton and phytoplankton are expressed in grams per cubic meter (g/m^3), and periphyton and benthic organisms in grams per square meter (g/m^2).

Dry mass refers to the mass of residue present after drying in an oven at 60°C for zooplankton and 105°C for periphyton, until the mass remains unchanged. This mass represent the total organic matter, ash and sediment, in the sample. Dry mass values are expressed in the same units as ash mass.

Organic mass or volatile mass of the living substance is the difference between the dry mass and ash mass, and represent the actual mass of the living matter. The organic mass is expressed in the same units as for ash mass and fry mass.

Wet mass is the mass of living matter plus contained water.

Cells/volume refers to the number of cells of any organism which is counted by using a microscope and grind or counting cell. Many plaktonic organisms are multicelled and are counted according to the number of contained cells per sample, usually milliliters (mL) or liters (L).

Cfs-day is the volume of water represented by flow of 1 cubic foot per second for 24 hours. It is equivalent to 86,400 cubic feet, approximately 1.9835 acre-feet, about 646,000 gallons or 2,447 cubic meters.

Chemical oxygen demand (COD) is a measure of the chemically oxidizable material in the water, and furnishes an approximation of the amount of organic and reducing material present. The determined value may correlate with natural water color or with carbonaceous organic pollution from sewage or industrial wastes.

Chlorophyll refers to the green pigments of plants. Chlorophyll a and b are the two most common pigments in plants.

Contents is the volume of water in a reservoir or lake. Unless otherwise indicated, volume is computed on the basis of a level pool and does not include bank storage.

Control designates a feature downstream from the gage that determines the stage-discharge relation at the gage. This feature may be a natural constriction of the channel, an artificial structure, or a uniform cross section over a long reach of the channel.

Control structure as used in this report is a structure on a stream or canal that is used to regulate the flow or stage of the stream.

Cubic foot per second (FT^3/s, ft^3/s) is the rate of discharge representing a volume of 1 cubic foot passing a given point during 1 second and is equivalent to approximately 7.48 gallons per second or 448.8 gallons per minute or 0.02832 cubic meters per second.

Cubic feet per second per square mile (CFSM) is the average number of cubic feet of water flowing per second from each square mile of area drained, assuming that the runoff is distributed uniformly in time and area.

Discharge is the volume of water (or more broadly, volume of fluid plus suspended sediment), that passes a given point within a given period of time.

Mean discharge (MEAN) is the arithmetic mean of individual daily mean discharges during a specific period.

Instantaneous discharge is the discharge at a particular instant of time.

Dissolved refers to the amount of substance present in true chemical solution. In practice, however, the term includes all forms of substance that will pass through a 0.45-micrometer membrane filter, and thus may include some very small (colloidal) suspended particles. Analysis are performed on filtered samples.

Diversity index is a numerical expression of evenness of distribution of aquatic organisms. The formula for diversity index is:

$$d = -\sum_{i=1}^{s} \frac{n_i}{n} \log \frac{n_i}{n}$$

Where is the number of individuals per taxon, is the total number of individuals, and is the total number of taxa in the sample of the community. Diversity index values range from zero, when all the organisms in the sample are the same, to some positive number, when some or all of the organisms in the sample are different.

Drainage area of a stream at a specific location is that area, measured in a horizontal plane, enclosed by a topographic divide from which direct surface runoff from precipitation normally drains by gravity into the river above the specified point. Figures of drainage area given herein include all closed basins, or noncontribution areas, within the area unless otherwise noted.

Drainage basin is a part of the surface of the earth that is occupied by drainage system, which consists of a surface stream or body of impounded surface water together with all tributary surface streams and bodies of impounded water.

Gage height (G.H.) is the water-surface elevation referred to some arbitrary gage datum. Gage height is often used interchangeably with the more general term "stage," although gage height is more appropriate when used with a reading on a gage.

Gaging station is a particular site on a stream, canal, lake, or reservoir where systematic observations of hydrologic data are obtained.

Hardness of water is a physical-chemical characteristic that is commonly recognized by the increased quantity of soap required to produce lather. It is attributable to the presence of alkaline earth (principally calcium and magnesium) and is expressed as equivalent calcium carbonate ($CaCO_3$).

Hydrologic unit is a geographic area representing part of all of a surface drainage basin or distinct hydrologic feature as delineated by the Office of Water Data Coordination on the State Hydrologic Unit Maps; each hydrologic unit is identified by an 8-digit number.

Micrograms per gram (ug/g) is a unit expressing the concentration of a chemical element as the mass (micrograms) of the element sorbed per unit mass (gram) of sediment.

Micrograms per liter (MG/L, mg/L) is a unit expressing the concentration of a chemical element as the mass (micrograms) of the element sorbed per unit mass (gram) of sediment.

Milligrams per liter (MG/L, mg/L) is a unit for expressing the concentration of chemical constituents in solution. Milligrams per liter represent the mass of solute per unit volume (liter) of water. Concentration of suspended sediment also is expressed in mg/L, and is based on the mass of sediment per liter of water-sediment mixture.

National Geodetic Vertical Datum of 1929 (NGVD) is a geodetic datum derived from a general adjustment of the first order level nets of both the United States and Canada. It was formerly called "mean sea level."

Organism is any living entity, such as an insect, phytoplankter, or zooplankter.

Organism count/area refers to the number of organisms collected and enumerated in a sample and adjusted to the number per area habitat, usually square meters (m^2), acres, or hectares. Periphyton, benthic organisms, and macrophytes are expressed in these terms.

Organism count/volume refers to the number of organisms collected and enumerated in a sample and adjusted to the number per sample volume, usually milliliters (mL) or liters (L). Number of planktonic organisms can be expressed in these terms.

Total organism count is a particular site where limited streamflow and/or water-quality data are collected systematically over a period of years for use in hydrologic analyses.

Partial-record station is a particular site where limited streamflow and/or water-quality data are collected systematically over a period of years for use in hydrologic analyses.

Particle-size is the diameter, in millimeters (mm) of suspended sediment or bed material determined by either sieve or sedimentation methods. Sedimentation methods (pipet, bottom-withdrawn tube, visual-accumulation tube) determine fall diameter of particles in either distilled water (chemically dispersed) or in native water (the river water at the time and point of sampling).

Particle-size classification used in this report agrees with recommendations made by the American Geophysical Union Subcommittee on Sediment Terminology.

The classification is as follows:

Classification	Size (mm)	Method of analysis
Clay............	0.00024 - 0.004	Sedimentation.
Silt............	.004 - .062	Sedimentation.
Sand............	.062 - 2.0	Sedimentation or sieve.
Gravel..........	2.0 - 64.0	Sieve.

The particle-size distributions given in this report are not necessarily representative of all particles in transport in the stream. Most of the organic material is removed and the sample is subjected to mechanical and chemical dispersion before analysis in distilled water. Chemical dispersion is not used for native water analysis.

Percent composition is a unit for expressing the ratio of a particular part of a sample or population to the total sample or population, in terms of types, numbers, mass or volume.

Pesticides are chemical compounds used to control undesirable plants and animals. Major categories or pesticides include insecticides, miticides, fungicides, herbicides, and rodenticides. Insecticides and herbicides, which control insects and plants respectively, are the two categories reported.

Picocurie (PC, pCi) is one trillionth (1×10^{12}) of the amount of radioactivity represented by a curie (ci). A curie is the amount of radioactivity that yield 3.7×10^{12} radioactive disintegrations per second. A pococurie yields 2.22 dpm (disintegrations per minute).

Plankton is the community of suspended, floating, or weakly swimming organisms that live in the open water of lakes and rivers.

Phytoplankton is the plant part of the plankton. They are usually microscopic and their movement is subject to the water currents. Phytoplankton growth is dependent upon solar radiation and nutrient substances. Because they are able to incorporate as well as release materials to the surrounding water, the phytoplankton have a profound effect upon the quality of water. They are the primary food producers in the aquatic environment, and are commonly known as algae.

Blue-green algae are a group of phytoplankton organisms having a blue pigment, in addition to the green pigment called chlorophyll. Blue-green algae often cause nuisance conditions in water.

Diatoms are the unicellular or colonial algae having a siliceous shell. Their concentrations are expressed as number of cells per milliliter (cells/m) of sample.

Green algae have chlorophyll pigments similar in color to those of higher green plants. some forms produce algal mats or floating "moss" in lakes. Their concentrations are expressed as number of cells per milliliter (cells/m) of sample.

Zooplankton is the animal part of the plankton. Zooplankton are capable of extensive movements within the water column, and are often large enough to be seen with the unaided eye. Zooplankton are secondary consumers feeding upon bacteria, phytoplankton, and detritus. Because they are the grazers in the aquatic environment, the zooplankton are a vital part of the aquatic food web. The zooplankton community is dominated by small crustaceans and rotifers.

Polychlorinated biphenyls (PCBs) are industrial chemicals that are mixtures of chlorinated biphenyl compounds having various percentages of chlorine. They are similar in structure to organochlorine insecticides.

Primary productivity is a measure of the rate at which new organic matter is formed and accumulated through photosynthetic and chemosynthetic activity of producer organisms (chiefly green plants). The rate of primary production is estimated by measuring the amount of oxygen released (oxygen method) or the amount of carbon assimilated by the plants (carbon method).

Recurrence interval as applied to floods, is the average number of years within which a given flood peak will be equaled or exceeded once. For example, a 100-year flood discharge will be exceeded on the average of once in 100 years. In terms of probability, there is a 1 percent chance that such a flood will occur in any year.

Runoff in inches (IN, in) shows the depth to which the drainage area would be covered if all the runoff for a given time period were uniformly distributed on it.

Sediment is solid material that originates mostly from disintegrated rocks and is transported by, suspended in, or deposited from water; it includes chemical and biochemical precipitates and decomposed organic material, such as humus. The quantity, characteristics, and cause of the occurrence of sediment in stream are influenced by environmental factors. Some major factors are degree of slope, length of slope, soil characteristics, land usage, and quantity and intensity of precipitation.

Suspended sediment is the sediment that at any given time is maintained in suspension by the upward components of turbulent currents or that exists in suspension as a colloid.

Suspended-sediment concentration is the velocity-weighted concentration of suspended sediment in the sampled zone (from the water surface to a point approximately 0.3 ft above the bed) expressed as milligrams of dry sediment per liter of water-sediment mixture (mg/L).

Suspended-sediment discharge (tons/day) is the rate at which dry weight of sediment passes a section of a stream or is the quantity of sediment, as measured by dry weight or volume, that passes a section in a given time. It is computed by multiplying discharge times mg/L times 0.0027.

Suspended-sediment load is quantity of suspended sediment passing a section in a specified period.

Total sediment discharge (tons/day) is the sum of the suspended-sediment discharge and the bedload discharge. It is the total quantity of sediment, as measured by dry weight or volume, that passes a section during the given time.

Mean concentration is the time weighted concentration of suspended sediment passing a stream section during a 24-hour day.

Solute is any substance derived from the atmosphere, vegetation, soil, or rocks that is dissolved in water.

Specific conductance is a measure of the ability of a water to conduct an electrical current. It is expressed in micromhos per centimeter at 25°C. Specific conductance is related to the type and concentration of ions in solution and can be used for approximating the dissolved-solids content of the water. Commonly, the concentration of dissolved solids (in milligrams per liter) is about 65 percent of the specific conductance (in micromhos). This relation is not constant from stream to stream, and it may vary in the same source with changes in the composition of the water.

Stage-discharge relation is the relation between gage height (stage) and volume of water per unit of time, flowing in a channel.

Streamflow is the discharge that occurs in a natural channel. Although the term "discharge" can be applied to the flow of a canal, the word "streamflow" uniquely describes the discharge in a surface stream course. The term "streamflow" is more general than "runoff" as streamflow may be applied to discharge whether or not it is affected by diversion or regulation.

Substrate is the physical surface upon which an organism lives.

Natural substrates refers to any naturally occurring emersed or submersed solid surface, such as a rock or tree, upon which an organism lived.

Artificial substrate is a device which is purposely placed in a stream or lake for colonization of organisms. The artificial substrate simplifies the community structure by standardizing the substrate from which each sample is taken. Examples of artificial substrates are basket samplers (made of wire cages filled with clean streamside rocks) and multi-plate samplers (made of hardboard) for benthic organism collection, and plexiglass strips for periphyton collection.

Surface area of a lake is that area outlined on the latest USGS topographic map as the boundary of the lake and measured by a planimeter in acres. In localities not covered by topographic maps, the areas are computed from the best maps available at the time planimetered. All areas shown are those for the stage when the planimetered map was made.

Surficial bed material is that part (0.1 to 0.2 ft) of the bed material that is sampled using U.S. Series Bed Material Samplers.

Suspended (as used in tables of chemical analyses) refers to the amount (concentration) of the total concentration in a water-sediment mixture. The water-sediment mixture is associated with (or sorbed on) that material retained on a -0.45 micrometer filter.

Taxonomy is the division of biology concerned with the classification and naming of organisms. The classification of organisms is based upon a heirarchial scheme beginning with Kingdom and ending with Species at the base. The higher the classification level, the fewer features the organisms have in common. For example, the taxonomy of a particular manfly, Hexagenia Limbata is the following:

Kingdom.................Animal
Phylum..............Arthropoda
Class..................Insects
Order............Ephemeroptera
Family.............Ephemeridae
Genus... ....Hexageris
Species......Hexagenia limbata

Thermograph is a thermometer that continuously and automatically records, on a chart, the water temperature of a stream. "Temperature recorder" is the term used to indicate the presence of a thermograph or a digital mechanism that automatically records water temperatures on paper tape.

Time-weighted average is computed by multiplying the number of days in the sampling period by the concentrations if individual constituents for the corresponding period and dividing the sum of the products by the total number of days. A time-weighted average represents the composition of water that would be contained in a vessel or reservoir that had received equal quantities of water from the stream each day for the water year.

Tons per acre-foot indicates the dry mass of dissolved solids in 1 acre-foot of water. It is computed by multiplying the concentration in milligrams per liter by 0.00136.

Tons per day is the quantity of substance in solution of suspension that passes a stream section during a 24-hour day.

Total (as used in tables of chemical analyses) refers to the amount of a substance that is present both in solution and in suspension. Analyses are performed on representative samples of water-suspended sediment mixtures.

Total load (tons) is the total quantity of any individual constituent, as measured by dry mass or volume, that is dissolved in a specific amount of water (discharge) during a given time. It is computed by multiplying the total discharge, times the mg/L of the constituent, times the factor 0.0027, times the number of days.

Weighted average is used in this report to indicate discharge-weighted average. It is computed by multiplying the discharge for a sampling period by the concentrations of individual constituents for the corresponding period and dividing the sum of the products by the sum of the discharges. A discharge-weighted average approximates the composition of water that would be found in a reservoir containing all the water passing a given location during the water year after thorough mixing in the reservoir.

WRD is used as an abbreviation for "Water-Resources Data" in the "REVISED RECORDS" paragraph to refer to State annual basic-data reports published before 1975.

WSP is used as an abbreviation for "Water-Supply Paper" in references to previously published reports.

PUBLICATIONS ON TECHNIQUES OF WATER-RESOURCES INVESTIGATIONS

Thirty-seven manuals by the U.S. Geological Survey have been published to date in the series on techniques describing procedures for planning and executing specialized work in water-resources investigations. The material is grouped under major subject headings called books and is further divided into sections and chapters. For example, Section A of Book 3 (Applications of Hydraulics) is on surface water. The chapter, the unit of publication, is limited to a narrow field of subject matter. This format permits flexibility in revision and publication as the need arises. The reports listed below are for sale by the U.S. Geological Survey, Branch of Distribution, 604 South Pickett St., Alexandria, VA 22304 (authorized agent of the Superintendent of Documents, Government Printing Office).

NOTE: When ordering any of these publications, please give the title, book number, chapter number, and "U.S. Geological Survey Techniques of Water-Resources Investigations".

1-D1. *Water temperature--influential factors, field measurement, and data presentation*, by H. H. Stevens, Jr., J. F. Ficke, and G. F. Smoot: USGS--TWRI Book 1, Chapter D1. 1975. 65 pages.

1-D2. *Guidelines for collection and field analysis of ground-water samples for selected unstable constituents*, by W. W. Wood: USGS--TWRI Book 1, Chapter D2. 1976. 24 pages.

2-D1. *Application of surface geophysics to ground-water investigations*, by A. A. R. Zohdy, G. P. Eaton, and D. R. Mabey: USGS--TWRI Book 2, Chapter D1. 1974. 116 pages.

2-E1. *Application of borehole geophysics to water-resources investigations*, by W. S. Keys and L. M. MacCary: USGS--TWRI Book 2, Chapter E1. 1971. 126 pages.

3-A1. *General field and office procedures for indirect discharge measurements*, by M. A. Benson and Tate Dalrymple: USGS--TWRI Book 3, Chapter A1. 1967. 30 pages.

3-A2. *Measurement of peak discharge by the slope-area method*, by Tate Dalrymple and M. A. Benson: USGS--TWRI Book 3, Chapter A2. 1967. 12 pages.

3-A3. *Measurement of peak discharge at culverts by indirect methods*, by G. L. Bodhaine: USGS--TWRI Book 3, Chapter A3. 1968. 60 pages.

3-A4. *Measurement of peak discharge at width contractions by indirect methods*, by H. F. Matthai: USGS--TWRI Book 3, Chapter A4. 1967. 44 pages.

3-A5. *Measurement of peak discharge at dams by indirect methods*, by Harry Hulsing: USGS--TWRI Book 3, Chapter A5. 1967. 29 pages.

3-A6. *General procedure for gaging streams*, by R. W. Carter and Jacob Davidian: USGS--TWRI Book 3, Chapter A6. 1968. 13 pages.

3-A7. *Stage measurements at gaging stations*, by T. J. Buchanan and W. P. Somers: USGS--TWRI Book 3, Chapter A7. 1968. 28 pages.

3-A8. *Discharge measurements at gaging stations*, by T. J. Buchanan and W. P. Somers: USGS--TWRI Book 3, Chapter A8. 1969. 65 pages.

3-A9. *Measurement of time of travel and dispersion in streams by dye tracing*, by E. F. Hubbard, F. A. Kilpatrick, L. A. Martens, and J. F. Wilson, Jr.: USGS--TWRI Book 3, Chapter A9. 1982. 44 pages.

3-A11. *Measurement of discharge by moving-boat method*, by G. F. Smoot and C. E. Novak: USGS--TWRI Book 3, Chapter A11. 1969. 22 pages.

3-B1. *Aquifer-test design, observation, and data analysis*, by R. W. Stallman: USGS--TWRI Book 3, Chapter B1. 1971. 26 pages.

3-B2. *Introduction to ground-water hydraulics, a programed text for self-instruction*, by G. D. Bennett: USGS--TWRI Book 3, Chapter B2. 1976. 172 pages.

3-B3. *Type curves for selected problems of flow to wells in confined aquifers*, by J. E. Reed: USGS--TWRI Book 3, Chapter B3. 1980. 106 pages.

3-C1. *Fluvial sediment concepts*, by H. P. Guy: USGS--TWRI Book 3, Chapter C1. 1970. 55 pages.

3-C2. *Field methods for measurement of fluvial sediment*, by H. P. Guy and V. W. Norman: USGS--TWRI Book 3, Chapter C2. 1970. 59 pages.

3-C3. *Computation of fluvial-sediment discharge*, by George Porterfield: USGS--TWRI Book 3, Chapter C3. 1972. 66 pages.

4-A1. *Some statistical tools in hydrology*, by H. C. Riggs: USGS--TWRI Book 4, Chapter A1. 1968. 39 pages.

4-A2. *Frequency curves*, by H. C. Riggs: USGS--TWRI Book 4, Chapter A2. 1968. 15 pages.

4-B1. *Low-flow investigations*, by H. C. Riggs: USGS--TWRI Book 4, Chapter B1. 1972. 18 pages.

4-B2. *Storage analyses for water supply*, by H. C. Riggs and C. H. Hardison: USGS--TWRI Book 4, Chapter B2. 1973. 20 pages.

4-B3. *Regional analyses of streamflow characteristics*, by H. C. Riggs: USGS--TWRI Book 4, Chapter B3. 1973. 15 pages.

4-D1. *Computation of rate and volume of stream depletion by wells*, by C. T. Jenkins: USGS--TWRI Book 4, Chapter D1. 1970. 17 pages.

5-A1. *Methods for determination of inorganic substances in water and fluvial sediments*, by M. W. Skougstad and others, editors: USGS--TWRI Book 5, Chapter A1. 1979. 626 pages.

5-A2. *Determination of minor elements in water by emission spectroscopy*, by P. R. Barnett and E. C. Mallory, Jr.: USGS--TWRI Book 5, Chapter A2. 1971. 31 pages.

5-A3. *Methods for analysis of organic substances in water*, by D. F. Goerlitz and Eugene Brown: USGS--TWRI Book 5, Chapter A3. 1972. 40 pages.

5-A4. *Methods for collection and analysis of aquatic biological and microbiological samples*, edited by P. E. Greeson, T. A. Ehlke, G. A. Irwin, B. W. Lium, and K. V. Slack: USGS--TWRI Book 5, Chapter A4. 1977. 332 pages.

5-A5. *Methods for determination of radioactive substances in water and fluvial sediments*, by L. L. Thatcher, V. J. Janzer, and K. W. Edwards: USGS--TWRI Book 5, Chapter A5. 1977. 95 pages.

5-C1. *Laboratory theory and methods for sediment analysis*, by H. P. Guy: USGS--TWRI Book 5, Chapter C1. 1969. 58 pages.

7-C1. *Finite difference model for aquifer simulation in two dimensions with results of numerical experiments*, by P. C. Trescott, G. F. Pinder, and S. P. Larson: USGS--TWRI Book 7, Chapter C1. 1976. 116 pages.

7-C2. *Computer model of two-dimensional solute transport and dispersion in ground water*, by L. F. Konikow and J. D. Bredehoeft: USGS--TWRI Book 7, Chapter C2. 1978. 90 pages.

7-C3. *A model for simulation of flow in singular and interconnected channels*, by R. W. Schaffranek, R. A. Baltzer, and D. E. Goldberg: USGS--TWRI Book 7, Chapter C3. 1981. 110 pages.

8-A1. *Methods of measuring water levels in deep wells*, by M. S. Garber and F. C. Koopman: USGS--TWRI Book 8, Chapter A1. 1968. 23 pages

8-B2. *Calibration and maintenance of vertical-axis type current meters*, by G. F. Smoot and C. E. Novak: USGS--TWRI Book 8, Chapter B2. 1968. 15 pages.

05490600 DES MOINES RIVER AT ST. FRANCISVILLE, MO
(National stream-quality accounting network station)

WATER-QUALITY RECORDS

LOCATION.--Lat 40°27'45", long 91°34'00", Clark County, in SW¼NW¼ sec.4, T.65 N., R.6 W., Hydrologic Unit 07100009, at bridge on County Highway B at St. Francisville, and 8 mi upstream from Sugar Creek.

DRAINAGE AREA.--14,300 mi^2.

PERIOD OF RECORD.--August 1967 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1973 to September 1974, October 1975 to September 1981.
WATER TEMPERATURE: October 1973 to September 1974, October 1975 to September 1981.
SEDIMENT RECORDS: April 1978 to September 1982, April 1983 to current year.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE (water years 1976-80): Maximum daily, 1,080 micromhos January 25, 1977; minimum daily, 214 micromhos September 2, 1980.
WATER TEMPERATURE (water years 1976-80): Maximum daily, 35.0°C July 6, 1977; minimum daily, 0.0°C many days during winter periods.
SUSPENDED-SEDIMENT CONCENTRATIONS: Maximum daily mean, 8,010 mg/L April 13, 1981; minimum daily mean, 11 mg/L November 23, 1980.
SUSPENDED-SEDIMENT LOADS: Maximum daily, 765,000 tons March 20, 1982; minimum daily, 41 tons April 6, 1981.

EXTREMES FOR CURRENT YEAR.--
SUSPENDED-SEDIMENT CONCENTRATIONS: Maximum daily mean, 4,180 mg/L May 1; minimum daily mean, 60 mg/L October 11.
SUSPENDED-SEDIMENT LOADS: Maximum daily, 449,000 tons June 10; minimum daily, 243 tons October 11.

WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS) (00061)	SPE-CIFIC CON-DUCT-ANCE (UMHOS) (00095)	PH (STAND-ARD UNITS) (00400)	TEMPER-ATURE (DEG C) (00010)	TUR-BID-ITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)
NOV										
16...	1409	18500	585	7.7	7.5	39	11.2	92	3100	3800
JAN										
18...	1220	6660	815	8.1	.0	3.0	7.4	52	120	300
MAR										
14...	0835	7520	645	8.2	1.0	11	8.4	58	K4	K16
MAY										
16...	0740	22700	452	7.8	14.0	22	7.6	71	1000	K3000
JUL										
12...	1230	37000	487	8.0	24.0	50	7.8	91	1000	1200
SEP										
05...	0830	3520	631	7.9	19.0	5.4	9.6	101	K48	K48

DATE	HARD-NESS (MG/L AS CACO3) (00900)	HARD-NESS, NONCAR-BONATE (MG/L CACO3) (00902)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	PERCENT SODIUM (00932)	SODIUM AD-SORP-TION RATIO (00931)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ALKA-LINITY FIELD (MG/L AS CACO3) (00410)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)
NOV										
16...	260	62	70	21	10	8	.3	3.8	200	55
JAN										
18...	380	93	100	32	19	10	.4	3.2	289	86
MAR										
14...	300	84	82	24	9.5	6	.2	2.4	220	61
MAY										
16...	230	70	62	18	2.5	2	.0	2.7	159	45
JUL										
12...	240	80	66	19	6.0	5	.2	2.9	164	40
SEP										
05...	310	100	75	29	12	8	.3	3.6	203	88

K--Results based on colony count outside the acceptable range (non-ideal colony count).

05490600 DES MOINES RIVER AT ST. FRANCISVILLE, MO--Continued

DATE	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)	FLUORIDE, DISSOLVED (MG/L AS F) (00950)	SILICA, DISSOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L) (70301)	SOLIDS, DISSOLVED (TONS PER AC-FT) (70303)	SOLIDS, DISSOLVED (TONS PER DAY) (70302)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N) (00631)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N) (00608)
NOV									
16...	16	.30	16	343	310	.47	17100	5.7	.130
JAN									
18...	33	.40	19	516	470	.70	9280	7.9	.510
MAR									
14...	18	.40	18	377	350	.51	7650	8.5	.100
MAY									
16...	14	.40	13	289	250	.39	17700	8.7	.030
JUL									
12...	12	.40	16	301	260	.41	30100	<.10	.250
SEP									
05...	19	.40	14	382	360	.52	3630	3.2	.020

DATE	NITROGEN, AMMONIA DISSOLVED (MG/L AS NH4) (71846)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N) (00625)	PHOSPHORUS, TOTAL (MG/L AS P) (00665)	PHOSPHORUS TOTAL (MG/L AS PO4) (71886)	PHOSPHORUS, DISSOLVED (MG/L AS P) (00666)	PHOSPHORUS, ORTHO, DISSOLVED (MG/L AS P) (00671)	SEDIMENT, SUSPENDED (MG/L) (80154)	SEDIMENT, DISCHARGE, SUSPENDED (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
NOV									
16...	.17	1.8	.230	.71	.120	.100	258	12900	58
JAN									
18...	.66	1.4	.180	.55	.150	.130	107	1920	67
MAR									
14...	.13	.70	.200	.61	.160	.120	79	1600	79
MAY									
16...	.04	1.3	.160	.49	.100	.070	125	7360	80
JUL									
12...	.32	1.2	.210	--	.130	<.010	154	15400	94
SEP									
05...	.03	1.3	.110	--	.030	.020	83	789	84

DATE	ALUMINUM, DISSOLVED (UG/L AS AL) (01106)	ARSENIC DISSOLVED (UG/L AS AS) (01000)	BARIUM, DISSOLVED (UG/L AS BA) (01005)	BERYLLIUM, DISSOLVED (UG/L AS BE) (01010)	CADMIUM DISSOLVED (UG/L AS CD) (01025)	CHROMIUM, DISSOLVED (UG/L AS CR) (01030)	COBALT, DISSOLVED (UG/L AS CO) (01035)	COPPER, DISSOLVED (UG/L AS CU) (01040)	IRON, DISSOLVED (UG/L AS FE) (01046)	LEAD, DISSOLVED (UG/L AS PB) (01049)
NOV										
16...	20	2	82	<.5	<1	<1	<3	3	29	2
JAN										
18...	20	5	119	<.5	1	40	<3	10	31	<1
MAY										
16...	20	<1	91	<1.0	<1	<1	<3	2	9	<1
JUL										
12...	20	1	16[illegible]	2.0	<1	<1	<3	5	12	<1

DATE	LITHIUM DISSOLVED (UG/L AS LI) (01130)	MANGANESE, DISSOLVED (UG/L AS MN) (01056)	MERCURY DISSOLVED (UG/L AS HG) (71890)	MOLYBDENUM, DISSOLVED (UG/L AS MO) (01060)	NICKEL, DISSOLVED (UG/L AS NI) (01065)	SELENIUM, DISSOLVED (UG/L AS SE) (01145)	SILVER, DISSOLVED (UG/L AS AG) (01075)	STRONTIUM, DISSOLVED (UG/L AS SR) (01080)	VANADIUM, DISSOLVED (UG/L AS V) (01085)	ZINC, DISSOLVED (UG/L AS ZN) (01090)
NOV										
16...	32	16	<.1	<10	3	2	<1	210	<6	19
JAN										
18...	25	22	<.1	<10	4	2	<1	300	<6	47
MAY										
16...	19	5	<.1	<10	2	2	<1	180	<6	14
JUL										
12...	18	9	<.1	<10	<1	1	<1	180	<6	12

05490600 DES MOINES RIVER AT ST. FRANCISVILLE, MO--Continued

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT

DATE	STREAM-FLOW, INSTAN-TANEOUS (CFS) (00061)	SED. SUSP. FALL DIAM. % FINER THAN .002 MM (70337)	SED. SUSP. FALL DIAM. % FINER THAN .004 MM (70338)	SED. SUSP. FALL DIAM. % FINER THAN .008 MM (70339)	SED. SUSP. FALL DIAM. % FINER THAN .016 MM (70340)	SED. SUSP. FALL DIAM. % FINER THAN .062 MM (70342)	SED. SUSP. FALL DIAM. % FINER THAN .125 MM (70343)	SED. SUSP. FALL DIAM. % FINER THAN .250 MM (70344)	SED. SUSP. FALL DIAM. % FINER THAN .500 MM (70345)	SED. SUSP. FALL DIAM. % FINER THAN 1.00 MM (70346)
FEB , 1984										
23...	27300	32	36	38	43	69	81	96	100	--
APR										
11...	31200	15	16	18	20	30	34	40	59	88
JUN										
13...	30400	11	12	13	17	49	67	73	87	91
26...	64200	14	15	16	23	38	39	52	75	95

PARTICLE-SIZE DISTRIBUTION OF SURFACE BED MATERIAL

DATE	BED MAT. SIEVE DIAM. % FINER THAN .062 MM (80164)	BED MAT. SIEVE DIAM. % FINER THAN .125 MM (80165)	BED MAT. SIEVE DIAM. % FINER THAN .250 MM (80166)	BED MAT. SIEVE DIAM. % FINER THAN .500 MM (80167)	BED MAT. SIEVE DIAM. % FINER THAN 1.00 MM (80168)	BED MAT. SIEVE DIAM. % FINER THAN 2.00 MM (80169)	BED MAT. SIEVE DIAM. % FINER THAN 4.00 MM (80170)	BED MAT. SIEVE DIAM. % FINER THAN 8.00 MM (80171)	BED MAT SIEVE DIAM. % FINER THAN 16.0 MM (80172)	BED MAT. SIEVE DIAM. % FINER THAN 32.0 MM (80173)
OCT , 1983										
19...	0	0	2	30	62	79	88	91	93	100
FEB , 1984										
23...	0	0	10	45	80	92	96	99	100	100
APR										
11...	0	0	11	34	65	85	94	98	100	100
JUN										
26...	6	12	37	71	86	93	97	98	100	100
JUL										
12...	2	6	17	66	84	90	97	99	100	--

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		OCTOBER			NOVEMBER			DECEMBER	
1	3400	112	1030	5520	64	954	15900	282	12100
2	3620	94	919	5140	311	4320	17000	257	11800
3	2940	83	659	19400	2080	109000	19800	219	11700
4	2880	96	746	13600	961	35300	19500	342	18000
5	2960	109	871	11300	305	9310	17600	203	9650
6	2880	93	723	13300	248	8910	17200	175	8130
7	2790	84	633	11900	184	5910	13400	168	6080
8	2670	65	469	12600	117	3980	10300	176	4890
9	2630	65	462	12200	108	3560	8730	182	4290
10	2190	66	390	12200	309	10200	8730	182	4290
11	1500	60	243	22000	755	44800	9580	189	4890
12	1760	68	323	17000	520	23900	15000	197	7980
13	1790	122	590	11200	329	9950	15300	229	9460
14	2280	86	529	12400	221	7400	13100	---	---
15	3460	64	598	16300	797	35100	11600	---	---
16	3440	61	567	18500	762	38100	11300	---	---
17	2890	61	476	17200	213	9890	9300	---	---
18	3010	77	626	13300	125	4490	7760	---	---
19	4980	101	1360	9640	91	2370	---	---	---
20	6520	120	2110	9970	107	2880	---	---	---
21	5250	84	1190	12200	133	4380	---	---	---
22	4010	83	899	15800	574	24500	---	---	---
23	5100	100	1380	17800	790	38000	---	---	---
24	5780	104	1620	19300	380	19800	---	---	---
25	7360	121	2400	23300	476	29900	---	---	---
26	9790	180	4760	20700	286	16000	---	---	---
27	9060	134	3280	19800	191	10200	---	---	---
28	8560	101	2330	29900	539	43500	---	---	---
29	6470	89	1550	29200	626	49400	---	---	---
30	5460	86	1270	19200	352	18200	---	---	---
31	6240	91	1530	---	---	---	---	---	---
TOTAL	133670	---	36533	471870	---	624204	241100	---	113260

05490600 DES MOINES RIVER AT ST. FRANCISVILLE, MO--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		JANUARY			FEBRUARY			MARCH	
1				---	---	---	28800	304	23600
2				---	---	---	27800	426	32000
3				---	---	---	24600	441	29300
4				---	---	---	24400	373	24600
5				---	---	---	23600	222	14100
6				---	---	---	22400	230	13900
7				---	---	---	---	259	---
8				---	---	---	---	241	---
9				---	---	---	13500	151	5500
10				---	---	---	10600	164	4690
11				---	---	---	9480	176	4500
12				---	---	---	8200	184	4070
13				---	---	---	7120	182	3500
14				13200	232	8270	7520	134	2729
15				20600	313	17400	6370	216	3710
16				22700	599	36700	10300	1340	37300
17				24300	1080	70900	9790	785	20700
18				---	1210	---	9580	293	7580
19				---	1260	---	10400	216	6070
20				---	1240	---	12300	282	9370
21				---	1010	---	11800	210	6690
22				---	755	---	10900	248	7300
23				27300	355	26200	14400	505	19600
24				27100	353	25800	13100	615	21800
25				26900	410	29800	15000	733	29700
26				26800	332	24000	16200	617	27000
27				26000	312	21900	22900	846	52300
28				25900	324	22700	28400	878	62600
29				28700	320	24800	29900	1430	115000
30				---	---	---	27600	724	54000
31				---	---	---	25200	496	33700
TOTAL				269500	---	308470	480160	---	676900
		APRIL			MAY			JUNE	
1	20400	347	19100	37200	4180	420000	25600	252	17400
2	20800	328	18400	22000	2890	172000	25400	235	16100
3	21000	344	19500	28300	2320	177000	25400	235	16100
4	23800	603	38700	42900	2750	319000	25400	219	15000
5	26900	681	64000	23500	1910	121000	25400	196	13400
6	28800	692	53800	22500	396	24100	25400	183	12600
7	27100	530	38800	23000	242	15000	25300	342	23400
8	22900	435	26900	22500	209	12700	26200	597	42200
9	29300	419	33100	20800	159	8930	33000	614	54700
10	31700	412	35300	20400	168	9250	51700	3220	449000
11	31200	417	35100	22000	210	12500	35300	2680	255000
12	30400	434	35600	22200	210	12600	24400	2080	137000
13	31500	466	39600	22400	211	12800	30400	380	31200
14	32600	515	45300	22400	190	11500	31400	265	22500
15	30500	403	33200	22300	148	8910	27100	756	55300
16	31200	340	28600	22700	144	8830	43100	2230	260000
17	30700	364	30200	22300	140	8430	40000	632	68300
18	29500	381	30300	22400	166	10000	34400	437	40600
19	29200	345	27200	22400	166	10000	33200	366	32800
20	29000	269	21100	23600	187	11900	35000	305	28800
21	291[illegible]	293	23000	25500	222	15300	38900	376	39500
22	271[illegible]	379	27700	23900	214	13800	42500	583	66900
23	273[illegible]	303	22300	22500	227	13800	43800	620	73300
24	27900	279	21000	27200	429	31500	44300	414	49500
25	21700	271	15900	25200	602	41000	44400	496	59500
26	20400	230	12700	28800	646	50200	44200	487	58100
27	19400	198	10400	26000	604	42400	44700	500	60300
28	18400	177	8790	25300	457	31200	51300	952	132000
29	21400	248	14300	32900	450	40000	46000	545	67700
30	25100	1140	77300	28800	624	48500	45600	325	40000
31	---	---	---	25800	321	22400	---	---	---
TOTAL	796300	---	907190	779700	---	1736550	1068800	---	2238200

05490600 DES MOINES RIVER AT ST. FRANCISVILLE, MO--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		JULY			AUGUST			SEPTEMBER	
1	44500	356	42800	24900	346	23300	7930	258	5520
2	44200	349	41600	23900	200	12900	4300	228	2650
3	43900	285	33800	25500	214	14700	3740	334	3370
4	43700	325	38300	25700	228	15800	3620	333	3250
5	43600	356	41900	25300	238	16300	3520	296	2810
6	43400	282	33000	24900	209	14100	3480	275	2580
7	43200	317	37000	24500	195	12900	3480	235	2210
8	42900	329	38100	24700	244	16300	2280	199	1230
9	42600	376	43200	24400	384	25300	2180	181	1070
10	42100	429	48800	25400	255	17500	2060	157	873
11	39900	382	41200	24900	259	17400	2320	160	1000
12	37000	364	36400	24600	379	25200	2360	207	1320
13	35200	286	27200	23700	183	11700	2270	167	1020
14	34000	400	36700	23000	179	11100	2420	190	1240
15	37100	1060	106000	22200	139	8330	2480	172	1150
16	45200	2200	268000	22400	138	8350	2700	152	1110
17	37900	1480	151000	21200	152	8700	2310	136	848
18	32200	464	40300	22000	179	10600	2330	144	906
19	30200	398	32500	20200	184	10000	2200	156	927
20	29900	427	34500	21500	185	10700	2370	153	979
21	29600	484	38700	21200	187	10700	2340	172	1090
22	29400	303	24100	21400	186	10700	2540	220	1510
23	29200	316	24900	21500	178	10300	2200	139	826
24	29400	328	26000	22400	157	9500	1790	132	638
25	33200	537	48100	22100	170	10100	1550	124	519
26	30900	563	47000	21700	198	11600	1590	113	485
27	37200	798	80200	19900	201	10800	1880	106	538
28	32600	606	53300	18700	195	9850	1580	105	448
29	28500	398	30600	18700	186	9390	2290	102	631
30	26300	356	25300	13000	202	7090	1470	104	413
31	25600	267	18500	12900	182	6340	---	---	---
TOTAL	1124600	---	1589000	688400	---	397550	79580	---	43161
YEAR	6133680		8671018						

BEST COPY AVAILABLE

05495000 FOX RIVER AT WAYLAND, MO

LOCATION.--Lat 40°23'33", long 91°35'50", in NW¼ sec. 31, T.65 N., R.6 W., Clark County, Hydrologic Unit 07110001, on left bank 90 ft downstream from bridge on U.S. Highway 136, 0.8 mi west of Wayland, and 5.0 mi downstream from Brush Creek, and at mile 15.2.

DRAINAGE AREA.--400 mi², approximately.

PERIOD OF RECORD.--February 1922 to current year.

REVISED RECORDS.--WSP 785: 1934.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 501.52 ft National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1929, nonrecording gage at bridge 2.8 mi upstream at different datum. Oct. 1, 1929, to June 11, 1936, nonrecording gage, at bridge 90 ft upstream at present datum.

REMARKS.--Records good. Several observations of water temperature and specific conductance made during the year.

COOPERATION.--Three discharge measurements furnished by Corps of Engineers.

AVERAGE DISCHARGE.--62 years, 253 ft³/s, 8.59 in/yr, 183,300 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 26,400 ft³/s Apr. 22, 1973, gage height, 21.71 ft; no flow at times in several years.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 4,000 ft³/s and maximum (*):

Date	Time	Discharge (ft³/s)	Gage height (ft)
Nov. 28	0615	4,280	12.45
Mar. 16	0530	4,690	13.01
May 4	0045	5,980	14.37
June 10	2400	*6,370	14.75
July 27	1745	5,600	13.99

Minimum daily discharge, 1.3 ft³/s Oct. 10.

DISCHARGE (CUBIC FEET/SECOND) WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.6	5.0	276	54	264	72	275	898	123	50	98	10
2	3.7	13	185	52	198	67	242	388	95	40	77	9.7
3	3.3	19	165	51	335	65	344	3870	78	36	64	9.3
4	3.2	20	144	49	696	66	1770	5140	65	34	54	9.7
5	3.0	44	144	53	646	81	1410	1980	62	33	47	10
6	2.4	28	154	63	347	93	603	751	62	31	42	9.3
7	1.7	46	109	119	236	76	397	503	54	29	37	9.0
8	1.5	37	116	230	151	60	466	364	347	29	35	10
9	1.4	28	100	311	111	59	1900	283	1860	29	34	12
10	1.3	247	121	322	94	59	1240	234	5790	25	35	16
11	1.4	1340	463	226	130	48	568	212	4330	26	27	78
12	2.0	494	2150	122	414	48	397	219	825	53	26	35
13	1.6	167	1560	75	894	45	585	339	427	170	24	23
14	1.6	87	728	53	721	46	387	264	297	73	22	18
15	1.7	62	468	40	474	1030	396	159	233	2220	20	19
16	1.9	51	335	35	425	3300	388	126	277	2410	20	16
17	1.9	45	286	34	806	984	243	116	234	1090	18	13
18	1.7	37	204	30	591	585	182	104	161	323	19	10
19	1.9	32	204	26	889	594	141	97	125	176	19	10
20	3.2	31	194	25	820	881	116	385	98	115	19	9.0
21	17	30	142	21	367	643	176	288	87	88	17	8.9
22	35	36	106	19	236	696	1410	293	75	71	17	8.2
23	53	559	97	20	196	1740	582	212	71	61	16	8.6
24	35	1260	91	21	160	2240	344	137	66	78	14	8.8
25	25	609	82	22	133	2360	228	110	56	342	14	8.4
26	20	219	73	28	116	1140	167	380	50	2740	13	7.8
27	14	936	68	70	102	777	133	241	56	5100	13	9.2
28	11	3800	67	243	90	777	104	283	163	2280	13	8.5
29	7.5	2410	64	655	79	643	189	417	134	420	12	13
30	6.7	636	59	474	---	418	1020	286	66	221	11	14
31	5.8	---	56	369	---	315	---	175	---	137	11	---
TOTAL	275.0	13328.0	9011	3912	10721	20008	16403	19256	16367	18530	888	431.4
MEAN	8.87	444	291	126	370	645	547	621	546	598	28.6	14.4
MAX	53	3800	2150	655	894	3300	1900	5140	5790	5100	98	78
MIN	1.3	5.0	56	19	79	45	104	97	50	25	11	7.8

CAL YR 1983 TOTAL 120982.7 MEAN 331 MAX 13400 MIN 1.3
WTR YR 1984 TOTAL 129130.4 MEAN 353 MAX 5790 MIN 1.3

05496000 WYACONDA RIVER ABOVE CANTON, MO

LOCATION.--Lat 40°08'32", long 91°33'55", in SW¼SW¼NE¼ sec. 28, T.62 N., R.6 W., Lewis County, Hydrologic Unit 07110001, on left bank on downstream side of bridge on State Highway 16, 1.9 mi upstream from Sugar Creek, and 2.5 mi west of Canton, and at mile 16.7.

DRAINAGE AREA.--393 mi^2.

PERIOD OF RECORD.--October 1932 to September 1972, October 1979 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 517.41 ft National Geodetic Vertical Datum of 1929. Prior to May 1, 1939, nonrecording gage at site 200 ft downstream at datum two feet lower. 1975 to 1979 nonrecording gage at present site and datum.

REMARKS.--Records good. Several observations of water temperature and specific conductance made during the year.

COOPERATION.--Three discharge measurements furnished by Corps of Engineers.

AVERAGE DISCHARGE.--45 years, (water years 1933-72 1980-current year) 242 ft^3/s, 8.36 in/yr. 175,300 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 17,700 ft^3/s July 30, 1933, gage height, 30.00 ft from floodmarks; no flow at times in several years.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 4,000 ft^3/s (revised) and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 29	1015	4,040	17.87
May 5	0300	5,990	21.02
June 11	2015	*6,930	22.14
July 17	0430	4,520	18.80
July 28	0845	5,280	20.11

Minimum discharge, 0.70 ft^3/s Oct. 11.

DISCHARGE (CUBIC FEET/SECOND) WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.3	7.9	354	49	193	86	149	818	137	31	100	8.1
2	2.3	33	178	49	172	84	125	430	104	26	77	8.3
3	1.9	18	157	50	259	82	347	2090	80	24	60	8.0
4	1.3	38	171	54	518	84	1910	4120	68	23	50	7.3
5	1.1	18	192	60	491	102	2390	4980	60	39	41	7.6
6	1.0	23	200	68	342	131	893	1250	60	41	36	7.9
7	1.0	21	138	115	229	107	388	511	53	26	32	7.8
8	1.1	14	111	232	182	86	559	295	1980	23	30	8.5
9	1.0	12	110	338	121	81	2200	205	2590	21	29	9.2
10	.89	239	102	302	92	80	1660	164	3130	20	27	13
11	1.5	907	699	187	109	73	712	138	5720	20	24	332
12	1.6	360	2550	107	382	71	442	174	4000	25	22	132
13	1.4	138	1650	73	783	58	618	2200	623	35	20	49
14	3.3	82	765	56	819	75	419	2390	250	29	18	31
15	3.9	53	441	44	490	244	452	505	257	2110	17	33
16	2.9	38	239	36	279	3240	643	189	286	3590	16	29
17	2.2	30	186	32	884	3260	283	126	173	3600	15	18
18	1.9	26	172	28	796	1210	185	101	116	620	14	14
19	2.1	23	250	23	994	1010	142	105	91	248	13	12
20	2.4	21	205	20	875	1550	117	2320	68	126	13	9.8
21	26	19	131	18	393	1050	358	1200	56	91	13	8.6
22	36	42	84	17	262	937	2390	515	51	70	12	7.9
23	42	840	74	17	204	1670	1340	922	46	55	11	11
24	27	1450	66	18	173	1960	505	284	39	44	11	11
25	15	636	62	22	148	2930	295	155	58	342	10	9.8
26	11	229	58	32	131	1850	209	246	44	2560	10	18
27	8.2	1390	55	69	118	1160	159	332	39	4090	11	14
28	6.4	3550	53	284	108	1010	123	371	61	4780	11	11
29	4.7	3740	51	491	97	574	515	713	86	1470	10	9.2
30	4.1	1370	50	418	---	301	1440	401	47	312	9.3	8.3
31	4.1	---	49	289	---	191	---	209	---	147	8.7	---
TOTAL	222.59	15367.9	9603	3598	10644	25347	21968	28459	20373	24639	771.0	854.3
MEAN	7.18	512	310	116	367	818	732	918	679	795	24.9	28.5
MAX	42	3740	2550	491	994	3260	2390	4980	5720	4780	100	332
MIN	.89	7.9	49	17	92	58	117	101	39	20	8.7	7.3

CAL YR 1983 TOTAL 120670.59 MEAN 331 MAX 11300 MIN .89
WTR YR 1984 TOTAL 161846.79 MEAN 442 MAX 5720 MIN .89

05497000 NORTH FABIUS RIVER AT MONTICELLO, MO

LOCATION.--Lat 40°06'30", long 91°42'51", in SW¼SE¼ sec. 6, T.61 N., R.7 W., Lewis County, Hydrologic Unit 07110002, on right bank upstream from bridge on State Highway 16, 1.0 mi south of Monticello, and 19.0 mi upstream from Middle Fabius River.

DRAINAGE AREA.--452 mi².

PERIOD OF RECORD.--February 1922 to current year. Monthly discharge only for some periods, published in WSP 1308.

REVISED RECORDS.--WSP 925: 1937-39(M). WSP 1308: 1922(M), 1924-26(M).

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 540.73 ft National Geodetic Vertical Datum of 1929. Prior to Nov. 22, 1930, nonrecording gage at site 400 ft downstream at datum 0.03 ft lower. Nov. 22, 1930, to Nov. 28, 1967, nonrecording gage at present site and datum.

REMARKS.--Records fair. Several observations of water temperature and specific conductance were made during the year.

COOPERATION.--Two discharge measurements furnished by Corps of Engineers.

AVERAGE DISCHARGE.--62 years, 287 ft³/s, 8.62 in/yr, 207,900 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 20,700 ft³/s Apr. 22, 1973, gage height, 33.03 ft, from graph based on gage readings; no flow at times in many years.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 5,000 ft³/s and maximum (*):

Date	Time	Discharge (ft³/s)	Gage height (ft)
Nov. 28	1315	5,940	20.32
May 4	0600	7,160	21.95
June 10	1945	*9,890	24.72

Minimum daily discharge, 3.0 ft³/s Oct. 10.

DISCHARGE (CUBIC FEET/SECOND) WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.2	9.7	289	46	233	84	250	966	165	45	109	11
2	4.9	22	191	45	195	80	216	384	134	40	86	11
3	4.7	25	169	46	182	79	258	4250	116	39	69	10
4	4.2	37	154	50	335	78	1690	5970	106	39	58	10
5	3.6	38	172	56	428	80	1790	1670	95	39	52	14
6	3.5	42	180	79	203	126	686	735	83	45	45	13
7	3.5	33	132	129	119	169	429	476	74	38	41	14
8	3.5	27	108	392	113	95	750	337	2220	48	37	20
9	3.3	23	119	523	109	77	3050	248	3460	39	35	24
10	3.0	221	103	391	105	74	1480	193	7580	30	31	26
11	3.6	1260	630	235	119	68	759	168	6180	29	28	50
12	8.4	362	3460	151	209	58	557	147	1280	35	25	62
13	7.9	154	1320	108	538	67	738	2770	685	37	24	59
14	8.1	94	595	85	608	71	473	2040	430	31	22	38
15	8.8	68	364	67	476	135	679	551	436	2560	23	35
16	6.7	57	299	56	280	2820	605	287	517	2900	22	27
17	5.1	49	246	49	556	1780	388	204	358	630	21	24
18	4.4	43	190	43	640	1180	284	166	257	287	21	20
19	4.8	41	195	37	1080	903	244	144	193	168	21	18
20	7.3	40	185	30	668	1250	207	2360	156	127	19	15
21	25	38	142	24	382	933	620	950	134	103	18	14
22	60	49	99	21	282	768	1880	449	120	84	18	13
23	32	732	78	21	225	1740	481	494	112	70	17	17
24	29	1940	68	22	185	554	540	244	98	60	16	18
25	21	521	56	26	155	2350	331	168	87	622	15	19
26	16	233	49	37	135	1320	246	249	78	2940	15	25
27	12	1800	44	83	122	1090	215	293	78	3320	15	18
28	9.8	5610	47	412	111	1110	206	417	65	927	15	16
29	8.8	2240	49	473	96	671	371	698	58	347	14	14
30	7.9	610	47	390	---	414	1670	364	48	207	14	13
31	8.7	---	46	321	---	304	---	222	---	147	12	---
TOTAL	334.7	16418.7	9826	4448	8889	20468	22093	28614	25403	16033	958	668
MEAN	10.8	547	317	143	307	660	736	923	847	517	30.9	22.3
MAX	60	5610	3460	523	1080	2820	3050	5970	7580	3320	109	62
MIN	3.0	9.7	44	21	96	58	206	144	48	29	12	10

CAL YR 1983	TOTAL	125000.4	MEAN	342	MAX	14000	MIN	3.0
WTR YR 1984	TOTAL	154153.4	MEAN	421	MAX	7580	MIN	3.0

05498000 MIDDLE FABIUS RIVER NEAR MONTICELLO, MO

LOCATION.--Lat 40°05'37", long 91°44'08", in SE¼ sec. 12, T.61 N., R.8 W., Lewis County, Hydrologic Unit 07110002, on left bank on downstream end of bridge pier on State Highway 16, 2.5 mi southwest of Monticello, 8 mi downstream from Radish Branch, and 17 miles upstream from mouth.

DRAINAGE AREA.--393 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1945 to current year.

GAGE.--Water-stage recorder. Datum of gage is 540.46 ft National Geodetic Vertical Datum of 1929. Prior to Oct. 4, 1967, nonrecording gage at present site and datum.

REMARKS.--Records good. Several observations of water temperature and specific conductance were made during the year.

COOPERATION.--Two discharge measurements furnished by Corps of Engineers.

AVERAGE DISCHARGE.--39 years, 269 ft^3/s, 9.30 in/yr, 194,900 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 17,700 ft^3/s Apr. 23, 1973, gage height, 27.14 ft; no flow at times in 1953-56.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 17, 1945, reached a stage of 23.3 ft, from floodmarks.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 3,500 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)
Mar. 17	1015	3,840	14.88
May 5	0430	6,010	18.22
May 15	1330	3,690	14.58
May 20	1215	4,090	15.36
June 12	0745	*8,510	20.86

Minimum daily discharge, 0.89 ft^3/s Oct. 10-11.

DISCHARGE (CUBIC FEET/SECOND) WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.9	3.5	378	47	187	54	228	1380	190	22	51	7.2
2	1.9	14	188	46	159	49	197	452	148	22	41	7.2
3	1.8	16	152	45	187	49	208	2910	121	22	33	6.7
4	1.9	54	159	45	294	53	797	5270	109	21	28	6.7
5	1.6	14	190	48	313	70	1780	4620	99	21	26	7.2
6	1.6	123	186	66	190	100	745	728	97	26	26	7.6
7	1.4	48	169	102	112	122	379	437	72	20	25	7.6
8	1.3	23	146	324	88	78	686	299	2030	20	25	9.5
9	1.1	15	122	558	60	56	2280	221	3050	19	25	9.5
10	.89	451	132	462	58	52	2020	176	4000	18	22	17
11	.89	579	889	264	71	51	702	155	5750	19	19	19
12	1.0	590	1990	159	179	48	461	143	7670	17	17	22
13	1.1	165	2350	116	242	42	557	557	2400	17	15	17
14	1.7	90	682	94	313	48	487	2360	440	22	14	28
15	1.6	58	134	65	234	333	595	3120	506	482	13	22
16	1.1	43	44	53	220	3530	726	478	899	472	12	17
17	1.1	37	52	44	274	3540	379	237	595	365	12	13
18	1.1	32	120	38	484	1480	265	170	264	104	12	11
19	1.6	29	137	34	468	961	205	140	157	47	11	10
20	3.1	27	120	30	605	1350	164	3000	115	32	11	9.0
21	7.3	24	92	27	317	1160	581	1890	90	26	10	8.5
22	118	61	84	27	212	976	2500	665	68	22	10	8.5
23	42	788	65	27	168	1540	1310	647	57	20	9.5	9.5
24	7.9	1310	54	28	141	2230	570	447	48	22	9.5	12
25	4.5	1150	46	28	116	3090	358	243	41	23	9.0	14
26	3.5	267	54	39	98	2330	257	176	35	1700	8.5	9.5
27	3.4	1920	48	90	82	1150	202	316	34	2620	9.0	9.0
28	3.7	2980	48	171	74	1120	161	394	28	1560	9.0	9.5
29	2.4	2950	48	401	65	711	320	1130	25	252	8.5	8.5
30	2.5	2130	48	286	---	411	1020	610	23	124	8.1	7.6
31	2.5	---	48	233	---	284	---	292	---	74	7.2	---
TOTAL	227.38	15991.5	8975	3937	6011	26971	21140	33663	29161	8231	536.3	350.8
MEAN	7.33	533	290	129	207	870	705	1086	972	266	17.3	11.7
MAX	118	2980	2350	558	605	3540	2500	5270	7670	2620	51	28
MIN	.89	3.5	44	27	58	42	161	140	23	17	7.2	6.7

CAL YR 1983	TOTAL	113498.38	MEAN	311	MAX	10400	MIN	.89
WTR YR 1984	TOTAL	155254.98	MEAN	424	MAX	7670	MIN	.89

WATER-QUALITY RECORDS

PERIOD OF RECORD.--January 1980 to current year.

PERIOD OF DAILY RECORD.--
SUSPENDED-SEDIMENT: January 1980 to September 1982, April 1983 to current year.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SUSPENDED-SEDIMENT CONCENTRATION: Maximum daily mean, 5,660 mg/L April 17, 1982; minimum daily mean, 2 mg/L November 17, 19, 27, 1980 and January 8, 1981.
SUSPENDED-SEDIMENT LOAD: Maximum daily, 81,600 tons June 12, 1984; minimum daily, 0.02 tons October 10, 11, 12, 13, 1983.

EXTREMES FOR CURRENT YEAR.--
SUSPENDED-SEDIMENT CONCENTRATIONS: Maximum daily mean, 3,010 mg/L June 12; minimum daily mean, 6 mg/L October 12, 13.
SUSPENDED-SEDIMENT LOADS: Maximum daily, 81,600 tons June 12; minimum daily, 0.02 tons October 10, 11, 12, 13.

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT

DATE	STREAM-FLOW, INSTAN-TANEOUS (CFS) (00061)	SED. SUSP. FALL DIAM. % FINER THAN .002 MM (70337)	SED. SUSP. FALL DIAM. % FINER THAN .004 MM (70338)	SED. SUSP. FALL DIAM. % FINER THAN .008 MM (70339)	SED. SUSP. FALL DIAM. % FINER THAN .016 MM (70340)	SED. SUSP. FALL DIAM. % FINER THAN .062 MM (70342)	SED. SUSP. FALL DIAM. % FINER THAN .125 MM (70343)	SED. SUSP. FALL DIAM. % FINER THAN .250 MM (70344)	SED. SUSP. FALL DIAM. % FINER THAN .500 MM (70345)	SED. SUSP. FALL DIAM. % FINER THAN 1.00 MM (70346)
APR , 1984										
11...	660	56	61	--	77	92	--	--	--	--
JUN										
13...	1950	59	68	72	84	98	99	100	100	100

PARTICLE-SIZE DISTRIBUTION OF SURFACE BED MATERIAL

DATE	BED MAT. SIEVE DIAM. % FINER THAN .062 MM (80164)	BED MAT. SIEVE DIAM. % FINER THAN .125 MM (80165)	BED MAT. SIEVE DIAM. % FINER THAN .250 MM (80166)	BED MAT. SIEVE DIAM. % FINER THAN .500 MM (80167)	BED MAT. SIEVE DIAM. % FINER THAN 1.00 MM (80168)	BED MAT. SIEVE DIAM. % FINER THAN 2.00 MM (80169)	BED MAT. SIEVE DIAM. % FINER THAN 4.00 MM (80170)	BED MAT. SIEVE DIAM. % FINER THAN 8.00 MM (80171)	BED MAT. SIEVE DIAM. % FINER THAN 16.0 MM (80172)	BED MAT. SIEVE DIAM. % FINER THAN 32.0 MM (80173)
OCT , 1983										
19...	0	1	3	13	24	33	42	54	70	90
FEB , 1984										
23...	0	4	10	11	22	31	40	54	80	100
APR										
11...	0	0	8	37	61	89	98	99	100	100
JUL										
12...	2	4	15	35	45	53	63	75	92	100
AUG										
08...	0	0	2	14	26	35	44	59	79	100

05498000 MIDDLE FABIUS RIVER NEAR MONTICELLO, MO--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		OCTOBER			NOVEMBER			DECEMBER	
1	1.9	8	.04	3.5	33	.31	378	36	37
2	1.9	11	.06	14	30	1.1	188	47	24
3	1.8	11	.05	16	30	1.3	152	21	8.6
4	1.9	12	.06	54	56	8.2	159	15	6.6
5	1.6	14	.06	14	36	1.4	190	14	7.4
6	1.6	12	.05	123	39	13	186	14	7.1
7	1.4	9	.03	48	44	5.7	169	15	6.7
8	1.3	11	.04	23	39	2.4	146	17	6.7
9	1.1	10	.03	15	37	1.5	122	14	4.7
10	.89	8	.02	451	72	459	132	13	4.8
11	.89	8	.02	579	76	640	889	57	110
12	1.0	6	.02	590	80	127	1990	99	531
13	1.1	6	.02	165	61	27	2350	78	495
14	1.7	8	.03	90	46	11	682	17	31
15	1.6	14	.06	58	35	5.4	134	15	5.4
16	1.1	25	.07	43	29	3.3	44	15	1.8
17	1.1	19	.06	37	27	2.7	52	16	2.2
18	1.1	21	.06	32	25	2.2	120	16	5.3
19	1.6	22	.10	29	33	2.6	137	11	4.1
20	3.1	23	.19	27	40	2.9	120	10	3.3
21	7.3	34	.66	24	22	1.4	92	11	2.8
22	118	106	153	61	25	4.2	84	11	2.5
23	42	70	8.0	788	88	1080	65	8	1.4
24	7.9	47	1.0	1310	186	4560	54	13	1.8
25	4.5	41	.49	1150	108	2200	46	13	1.6
26	3.5	33	.31	267	49	35	54	14	2.0
27	3.4	32	.29	1920	99	3850	48	18	2.3
28	3.7	32	.32	2980	140	1130	48	19	2.4
29	2.4	27	.18	2960	94	752	48	17	2.2
30	2.5	25	.17	2130	54	308	48	17	2.2
31	2.5	27	.19	---	---	---	48	20	2.7
TOTAL	227.38	---	165.68	15991.5	---	15238.61	8975	---	1326.6
		JANUARY			FEBRUARY			MARCH	
1	47	23	2.9	187	26	13	54	27	3.9
2	46	24	3.0	159	26	11	49	32	4.2
3	45	28	3.5	187	29	15	49	31	4.1
4	45	29	3.5	294	29	23	53	29	4.2
5	48	31	4.0	313	31	27	70	24	4.5
6	66	31	5.6	190	33	17	100	29	7.8
7	102	38	10	112	33	9.8	122	48	16
8	324	43	38	88	58	14	78	35	7.3
9	558	46	69	60	28	4.5	58	18	2.8
10	462	46	57	58	12	1.9	53	25	3.6
11	264	30	21	71	12	2.2	51	19	2.6
12	159	10	4.4	179	18	8.5	48	10	1.3
13	116	8	2.4	242	95	62	42	10	1.2
14	94	9	2.3	313	163	138	48	193	25
15	65	9	1.6	234	128	81	333	1250	2170
16	53	8	1.2	220	126	75	3530	2920	35300
17	44	8	1.0	274	132	97	3540	1450	13800
18	38	10	1.1	484	329	429	1480	669	2670
19	34	14	1.3	468	224	283	961	638	1660
20	30	19	1.6	605	815	1330	1350	813	2960
21	27	19	1.4	317	1170	1000	1160	518	1620
22	27	19	1.4	212	430	246	876	331	783
23	27	28	2.1	168	259	117	1540	720	5080
24	28	30	2.3	141	195	74	2230	867	5220
25	28	29	2.2	116	131	41	3090	1590	21900
26	39	38	4.0	98	42	11	2330	598	3760
27	90	40	9.8	82	30	6.7	1150	518	1610
28	171	40	18	74	27	5.4	1120	398	1200
29	401	38	41	65	28	4.9	711	253	485
30	286	37	28	---	---	---	411	182	202
31	233	33	21	---	---	---	284	116	89
TOTAL	3997	---	365.6	6011	---	4147.9	26971	---	100597.5

05498000 MIDDLE FABIUS RIVER NEAR MONTICELLO, MO--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		APRIL			MAY			JUNE	
1	228	86	53	1380	1070	4000	190	135	69
2	197	81	43	452	529	646	148	100	40
3	208	455	256	2910	654	5140	121	101	33
4	797	651	1400	5270	653	19200	109	99	29
5	1780	594	2860	4620	1370	17100	99	111	30
6	745	245	493	728	371	730	97	105	27
7	379	145	148	437	191	225	72	106	21
8	686	303	560	299	131	106	2030	2560	23800
9	2280	315	1940	221	100	60	3050	1720	14100
10	2020	278	1520	176	78	37	4000	1330	14300
11	702	247	469	155	66	27	5750	1210	26100
12	461	124	154	143	88	34	7670	3010	81600
13	557	121	181	557	313	1280	2400	1670	10800
14	487	157	207	2360	868	10200	440	678	805
15	595	234	376	3120	507	4270	506	787	1080
16	726	250	489	478	395	509	899	848	2060
17	379	125	127	237	194	124	595	573	921
18	265	66	47	170	125	57	264	297	212
19	205	52	29	140	507	192	157	180	76
20	164	56	25	3000	1250	17700	115	143	44
21	581	127	199	1890	834	4260	90	122	30
22	2500	224	1510	665	533	957	68	88	16
23	1310	227	803	647	403	704	57	93	14
24	570	150	230	447	302	365	48	90	12
25	358	94	90	243	143	94	41	86	9.5
26	257	62	43	176	152	72	35	76	7.2
27	202	67	36	316	233	199	34	112	10
28	161	95	41	394	317	337	28	123	9.3
29	320	458	31200	1130	851	2600	25	106	7.1
30	1020	1260	8030	610	456	751	23	99	6.2
31	---	---	---	292	217	171	---	---	---
TOTAL	21140	---	53559	33663	---	92147	29161	---	176268.3
		JULY			AUGUST			SEPTEMBER	
1	22	105	6.2	51	89	12	7.2	61	1.2
2	22	105	6.2	41	76	8.4	7.2	55	1.1
3	22	103	6.1	33	67	6.0	6.7	41	.74
4	21	78	4.4	28	47	3.5	6.7	44	.80
5	21	77	4.4	26	36	2.6	7.2	39	.77
6	26	144	10	26	51	3.6	7.6	21	.43
7	20	123	6.7	25	48	3.3	7.6	19	.38
8	20	94	5.1	25	40	2.7	9.5	22	.57
9	19	104	5.3	25	50	3.4	9.5	23	.60
10	18	101	4.9	22	59	3.5	17	23	1.0
11	19	95	4.9	19	53	2.7	19	34	1.7
12	17	74	3.4	17	40	1.9	22	29	1.7
13	17	109	5.0	15	45	1.8	17	22	1.0
14	22	95	5.6	14	48	1.8	28	18	1.4
15	482	1380	2790	13	51	1.8	22	12	.70
16	472	2790	5330	12	48	1.6	17	11	.50
17	365	1710	1690	12	54	1.8	13	11	.37
18	104	1190	334	12	55	1.8	11	9	.28
19	47	593	75	11	53	1.6	10	10	.26
20	32	316	27	11	48	1.4	9.0	11	.27
21	26	186	13	10	50	1.4	8.5	15	.34
22	22	177	11	10	57	1.5	8.5	17	.39
23	20	122	6.6	9.5	57	1.5	9.5	14	.36
24	22	87	5.2	9.5	33	.86	12	13	.41
25	23	207	13	9.0	39	.95	14	31	1.2
26	1700	2060	16500	8.5	42	.96	9.5	28	.71
27	2620	1350	9530	9.0	53	1.3	9.0	19	.47
28	1560	563	2370	9.0	54	1.3	9.5	16	.41
29	252	328	223	8.5	46	1.1	8.5	15	.35
30	124	184	61	8.1	47	1.0	7.6	15	.30
31	74	113	23	7.2	37	.72	---	---	---
TOTAL	8231	---	39080.0	536.3	---	79.79	350.8	---	20.71
YEAR	155254.98		482996.69						

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05500000 SOUTH FABIUS RIVER NEAR TAYLOR, MO

LOCATION.--Lat 39°53'49", long 91°34'49", in SW¼NW¼ sec.21, T.59 N., R.6 W., Marion County, Hydrologic Unit 07110003, on right bank at downstream side of county highway bridge, 4.5 mi southwest of Taylor, 5.0 mi downstream from Grassy Creek, and 5.3 mi upstream from confluence with North Fabius River.

DRAINAGE AREA.--620 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1934 to current year. Prior to December 1934 monthly discharge only, published in WSP 1308.

REVISED RECORDS.--WSP 825: 1936.

GAGE.--Water-stage recorder. Datum of gage is 482.91 ft National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers). Prior to May 14, 1936, nonrecording gage at bridge 4.0 mi downstream at datum 21.94 ft lower. May 14, 1936, to Dec. 2, 1940, nonrecording gage at present site and datum.

REMARKS.--Records good.

COOPERATION.--Three discharge measurements furnished by Corps of Engineers.

AVERAGE DISCHARGE.--50 years, 405 ft^3/s, 8.87 in/yr, 293,400 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 19,700 ft^3/s June 8, 1947, gage height, 19.5 ft, from rating curve extended above 11,000 ft^3/s; no flow at times in several years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in 1928 reached a stage of 18.49 ft, from floodmarks, at present site and datum.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 5,100 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 28	0130	6,400	10.37
Apr. 22	1645	6,620	10.59
May 5	0730	5,210	9.21
May 22	0245	6,290	10.27
June 9	0815	*8,720	12.54

Minimum discharge, 1.1 ft^3/s Oct. 9.

DISCHARGE (CUBIC FEET/SECOND) WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.4	7.6	594	49	164	100	282	1620	284	55	59	2.4
2	1.8	23	304	49	117	91	230	725	205	50	43	1.8
3	1.8	68	222	49	106	84	246	1860	166	44	33	1.8
4	1.5	200	527	49	123	84	667	4670	151	43	27	2.4
5	1.5	222	642	55	158	93	1900	4870	136	44	23	2.8
6	1.4	115	635	141	179	102	1520	3280	189	49	19	2.9
7	1.4	64	436	372	179	104	578	759	182	40	15	2.6
8	1.5	43	284	264	136	116	1190	441	267	36	18	2.8
9	1.3	36	216	192	41	104	3610	321	6670	34	12	3.6
10	1.3	169	167	16	24	89	2970	251	4980	32	9.9	13
11	1.4	1100	3110	100	26	81	1250	208	4450	47	8.4	237
12	2.5	541	4350	89	225	78	707	183	4250	38	9.4	97
13	2.7	344	3400	88	277	77	659	1580	4120	44	9.2	58
14	2.5	169	1570	86	215	78	661	1480	739	31	8.1	61
15	1.9	102	735	61	156	463	444	774	925	233	7.3	40
16	1.7	77	387	55	290	3400	836	524	2150	237	6.6	26
17	1.4	65	261	46	816	4360	634	248	1850	129	5.0	17
18	1.4	55	452	39	1350	4090	353	187	661	115	4.2	13
19	2.5	50	372	31	1440	2990	249	162	300	88	7.2	10
20	3.3	48	257	27	912	2940	192	3990	188	62	6.3	8.2
21	27	42	156	26	567	2360	1200	5530	139	47	5.1	8.9
22	72	44	117	26	351	1660	5540	4820	113	35	4.5	8.7
23	306	1410	119	26	245	1680	5500	1980	99	29	3.7	21
24	153	2060	93	23	196	2510	2430	1080	86	23	3.3	18
25	74	1200	86	25	165	4440	743	736	76	20	3.7	17
26	42	569	79	32	146	3350	449	672	70	25	3.6	19
27	22	3610	69	59	132	2980	321	410	66	31	2.9	34
28	14	5720	59	88	120	2210	253	872	63	523	2.7	31
29	9.8	4690	50	171	110	1230	278	958	63	459	2.5	24
30	7.0	2520	47	316	---	604	2010	929	60	144	2.7	16
31	6.5	---	49	248	---	385	---	463	---	83	2.8	---
TOTAL	770.5	25363.6	19965	2898	8966	42933	37902	46583	33698	2870	368.1	800.9
MEAN	24.9	845	644	93.5	309	1385	1263	1503	1123	92.6	11.9	26.7
MAX	306	5720	4350	372	1440	4440	5540	5530	6670	523	59	237
MIN	1.3	7.6	47	16	24	77	192	162	60	20	2.5	1.8

CAL YR 1983	TOTAL	187198.7	MEAN	513	MAX	12900	MIN	1.3
WTR YR 1984	TOTAL	223118.1	MEAN	610	MAX	6670	MIN	1.3

05500000 SOUTH FABIUS RIVER NEAR TAYLOR, MO.--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--July 1972 to August 1973, October 1979 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	TIME	AGENCY ANALYZING SAMPLE (CODE NUMBER) (00028)	STREAM-FLOW, INSTANTANEOUS (CFS) (00061)	SPECIFIC CONDUCTANCE (UMHOS) (00095)	PH (STANDARD UNITS) (00400)	TEMPERATURE (DEG C) (00010)	OXYGEN, DISSOLVED (MG/L) (00300)	OXYGEN, DISSOLVED (PERCENT SATURATION) (00301)	OXYGEN DEMAND, CHEMICAL (LOW LEVEL) (MG/L) (00335)	OXYGEN DEMAND, CHEMICAL (HIGH LEVEL) (MG/L) (00340)	COLIFORM, FECAL, 0.7 UM-MF (COLS./100 ML) (31625)
OCT 19...	1405	29001	2.7	428	8.2	13.5	9.2	87	24	--	210
NOV 16...	1159	29001	75	350	7.5	7.0	11.0	89	33	--	2900
DEC 21...	0815	29001	156	379	6.8	.0	11.2	77	18	--	--
JAN 11...	0800	29001	100	410	7.3	.5	11.4	79	23	--	830
FEB 23...	0915	29001	251	335	7.6	6.0	11.4	91	400	--	110
MAR 14...	1200	29001	72	496	8.2	3.5	9.2	69	9	--	K10
APR 11...	1310	29001	1170	238	7.6	12.0	8.8	80	52	--	1300
MAY 16...	1040	29001	575	305	7.6	16.0	7.2	72	38	--	3200
JUN 13...	1125	29001	4870	119	7.1	24.0	5.8	67	81	--	K1200
JUL 12...	1700	80020	38	443	8.4	27.0	6.2	76	--	40	420
AUG 08...	1330	80020	18	261	8.2	30.0	8.6	112	--	42	100
SEP 05...	1230	80020	2.9	400	8.1	21.5	11.2	123	--	--	140

DATE	HARDNESS (MG/L AS CACO3) (00900)	HARDNESS, NONCARBONATE (MG/L CACO3) (00902)	CALCIUM DISSOLVED (MG/L AS CA) (00915)	MAGNESIUM, DISSOLVED (MG/L AS MG) (00925)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	POTASSIUM, DISSOLVED (MG/L AS K) (00935)	ALKALINITY FIELD (MG/L AS CACO3) (00410)	CARBON DIOXIDE DISSOLVED (MG/L AS CO2) (00405)	SULFATE DISSOLVED (MG/L AS SO4) (00945)	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)
OCT 19...	210	38	58	15	15	3.5	169	2.0	47	12
NOV 16...	--	--	--	--	--	--	82	5.0	--	--
DEC 21...	--	--	--	--	--	--	118	36	--	--
JAN 11...	--	--	--	9.0	13	3.7	97	9.4	74	12
FEB 23...	--	--	--	--	--	--	91	4.4	--	--
MAR 14...	--	--	--	--	--	--	147	1.8	--	--
APR 11...	94	26	27	6.5	6.4	3.2	68	3.3	33	4.0
MAY 16...	--	--	--	--	--	--	100	4.9	--	--
JUN 13...	--	--	--	--	--	--	38	5.8	--	--
JUL 12...	190	26	56	12	12	4.1	164	1.2	50	9.1
AUG 08...	--	--	--	--	--	--	91	1.1	--	--
SEP 05...	--	--	--	--	--	--	144	2.2	--	--

K--Results based on colony count outside the acceptable range (non-ideal colony count).

05500000 SOUTH FABIUS RIVER NEAR TAYLOR, MO--Continued

DATE	FLUORIDE, DISSOLVED (MG/L AS F) (00950)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L) (70300)	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MG/L) (00530)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITROGEN, AMMONIA TOTAL (MG/L AS N) (00610)	PHOSPHORUS, TOTAL (MG/L AS P) (00665)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD) (01027)	CADMIUM DISSOLVED (UG/L AS CD) (01025)	COPPER, TOTAL RECOVERABLE (UG/L AS CU) (01042)	COPPER, DISSOLVED (UG/L AS CU) (01040)
OCT 19...	.20	260	6	.07	.050	.050	<2	<2	<5	<5
NOV 16...	--	--	47	3.0	.130	.120	--	--	--	--
DEC 21...	--	--	8	15	.130	.130	--	--	--	--
JAN 11...	.20	276	21	6.6	.230	.100	<2	<2	<5	<5
FEB 23...	--	--	108	3.8	.180	.250	--	--	--	--
MAR 14...	--	--	8	.84	.010	<.050	--	--	--	--
APR 11...	.10	150	270	1.4	.060	.170	<2	<2	11	<5
MAY 16...	--	--	440	.78	.110	.220	--	--	--	--
JUN 13...	--	--	290	.56	.030	.180	--	--	--	--
JUL 12...	.20	245	20	<.10	.060	.080	1	<1	15	5
AUG 08...	--	--	74	.70	.040	.120	--	--	--	--
SEP 05...	--	--	15	<.10	.010	.060	--	--	--	--

DATE	IRON, TOTAL RECOVERABLE (UG/L AS FE) (01045)	IRON, DISSOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOVERABLE (UG/L AS PB) (01051)	LEAD, DISSOLVED (UG/L AS PB) (01049)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN) (01055)	MANGANESE, DISSOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOVERABLE (UG/L AS HG) (71900)	MERCURY DISSOLVED (UG/L AS HG) (71890)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN) (01092)	ZINC, DISSOLVED (UG/L AS ZN) (01090)
OCT 19...	390	60	<5	<5	130	24	<.2	<.2	<10	<10
NOV 16...	--	--	--	--	--	--	--	--	--	--
DEC 21...	--	--	--	--	--	--	--	--	--	--
JAN 11...	2000	150	<5	<5	210	190	<.2	<.2	<10	<10
FEB 23...	--	--	--	--	--	--	--	--	--	--
MAR 14...	--	--	--	--	--	--	--	--	--	--
APR 11...	12000	720	7	<5	250	<20	<.2	<.2	40	<10
MAY 16...	--	--	--	--	--	--	--	--	--	--
JUN 13...	--	--	--	--	--	--	--	--	--	--
JUL 12...	1300	12	5	4	330	14	<.1	<.1	30	21
AUG 08...	--	--	--	--	--	--	--	--	--	--
SEP 05...	--	--	--	--	--	--	--	--	--	--

05501000 NORTH RIVER AT PALMYRA, MO

LOCATION.--Lat 39°49'06", long 91°31'13", in SE¼SW¼ sec. 13, T.58 N., R.6 W., Marion County, Hydrologic Unit 07110004, on right bank 100 ft upstream from City Waterworks dam, 1,000 ft upstream from upstream bridge on dual U.S. Highways 24 and 61, 0.5 mi north of Palmyra, and 7.0 mi upstream from mouth.

DRAINAGE AREA.--373 mi².

PERIOD OF RECORD.--December 1934 to current year.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 464.81 ft National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers). Prior to Oct. 1, 1945, nonrecording gage at bridge 1,000 ft downstream. Oct. 1, 1945, to June 22, 1951, nonrecording gage at present site and datum.

REMARKS.--Records good. Several observations of water temperature and specific conductance were made during the year.

COOPERATION.--Three discharge measurements furnished by Corps of Engineers.

AVERAGE DISCHARGE.--49 years, 255 ft³/s, 9.28 in/yr, 184,700 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 57,500 ft³/s Apr. 21, 1973, gage height, 29.70 ft; (no flow on many days in 1936, 1941, 1956).

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage prior to 1934, about 28.0 ft, from floodmarks, date unknown, at site 1,000 ft downstream, present datum.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 8,500 ft³/s and maximum (*):

Date	Time	Discharge (ft³/s)	Gage height (ft)
Nov. 28	0115	10,900	19.42
Dec. 11	1345	9,040	18.35
May 20	1515	11,200	19.55
June 9	1445	*13,000	20.44

Minimum daily discharge, 0.17 ft³/s Oct. 10.

DISCHARGE (CUBIC FEET/SECOND) WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.3	10	232	12	88	119	213	550	153	47	4.3	2.5
2	2.0	614	163	12	88	106	186	269	129	38	4.3	2.5
3	1.7	558	151	12	95	98	443	484	112	32	4.2	3.5
4	1.5	1230	756	13	106	106	1230	2440	129	34	26	2.7
5	1.1	339	754	18	88	155	943	631	130	32	15	3.4
6	1.0	127	613	91	71	118	495	268	112	34	8.0	3.1
7	.68	74	362	199	85	97	302	204	251	30	8.4	3.3
8	.51	47	219	204	67	95	1540	164	118	25	7.3	6.0
9	.34	37	158	182	55	88	2670	137	8910	22	5.1	10
10	.17	257	135	110	60	85	1050	122	1460	20	4.5	38
11	.34	719	5740	78	67	83	523	110	630	23	6.5	1150
12	1.1	305	3200	71	398	81	598	103	331	22	7.1	245
13	1.1	135	1090	60	395	78	540	148	204	29	5.8	106
14	.85	81	671	52	266	77	355	643	147	23	5.8	54
15	.68	57	397	57	177	990	269	437	463	38	5.5	34
16	.51	45	222	60	365	2850	243	152	1500	23	5.5	23
17	.51	40	164	60	1360	1520	242	109	663	19	5.4	18
18	.34	31	123	64	2100	1150	185	88	210	16	5.2	15
19	1.4	30	171	67	1280	3950	153	79	127	13	3.8	11
20	3.4	35	221	71	542	2270	134	6920	98	12	1.5	9.9
21	20	37	151	71	310	1230	1850	2490	85	12	1.4	7.8
22	74	40	88	64	221	858	6040	916	74	10	1.5	7.1
23	305	2870	81	47	171	678	2720	729	67	9.2	1.7	8.4
24	163	1110	52	40	145	759	816	529	57	8.3	1.9	12
25	67	476	47	45	126	3720	456	290	50	8.2	1.8	13
26	64	188	31	55	118	1360	326	512	47	7.3	2.1	8.4
27	24	5040	22	78	128	2340	248	343	45	6.6	3.4	7.8
28	17	5160	18	106	129	1010	194	831	123	5.3	3.8	7.8
29	16	1520	17	123	115	522	201	503	131	4.2	3.4	7.1
30	11	469	16	127	---	346	970	272	68	4.0	4.0	7.1
31	11	---	13	98	---	255	---	189	---	4.1	3.4	---
TOTAL	793.53	21681	16078	2347	9216	27194	26135	21662	16624	611.2	167.6	1827.4
MEAN	25.6	723	519	75.7	318	877	871	699	554	19.7	5.41	60.9
MAX	305	5160	5740	204	2100	3950	6040	6920	8910	47	26	1150
MIN	.17	10	13	12	55	77	134	79	45	4.0	1.4	2.5

CAL YR 1983 TOTAL 138796.83 MEAN 380 MAX 19100 MIN .17
WTR YR 1984 TOTAL 144336.73 MEAN 394 MAX 8910 MIN .17

05501600 MISSISSIPPI RIVER AT HANNIBAL, MO.

WATER-QUALITY RECORDS

LOCATION.--Lat 39°43'26", long 91°21'44", Marion County, Hydrologic Unit 07110004, at railroad bridge upstream from Highway 36 bridge at Hannibal, Mo.

PERIOD OF RECORD.--October 1981 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	TIME	AGENCY ANALYZING SAMPLE (CODE NUMBER) (00028)	STREAMFLOW, INSTANTANEOUS (CFS) (00061)	SPECIFIC CONDUCTANCE (UMHOS) (00095)	PH (STANDARD UNITS) (00400)	TEMPERATURE (DEG C) (00010)	OXYGEN, DISSOLVED (MG/L) (00300)	OXYGEN, DISSOLVED (PERCENT SATURATION) (00301)	OXYGEN DEMAND, CHEMICAL (LOW LEVEL) (MG/L) (00335)	OXYGEN DEMAND, CHEMICAL (HIGH LEVEL) (MG/L) (00340)	COLIFORM, FECAL, 0.7 UM-MF (COLS./100 ML) (31625)
OCT 18...	1600	29001	75800	390	8.6	15.5	10.1	99	29	--	64
NOV 16...	0715	29001	72400	425	7.2	7.0	10.6	85	34	--	4200
DEC 20...	1700	29001	43600	561	7.6	.0	11.2	76	18	--	--
JAN 11...	1230	29001	80700	560	7.4	.5	10.4	74	17	--	1200
FEB 23...	0800	29001	172000	400	8.0	3.5	11.6	87	30	--	670
MAR 13...	1500	29001	103000	459	8.1	.5	11.2	78	17	--	210
APR 11...	0710	29001	182000	428	8.0	9.0	7.0	59	23	--	700
MAY 15...	1530	29001	228000	386	7.8	17.5	8.2	83	23	--	770
JUN 13...	1245	29001	190000	384	7.6	24.0	6.0	70	45	--	1500
JUL 12...	1000	80020	185000	462	7.9	25.0	5.0	59	--	51	K170
AUG 08...	1515	80020	80000	480	8.1	29.0	8.6	110	--	29	K50
SEP 05...	1400	80020	30200	453	8.1	24.0	9.6	111	--	<10	K200

DATE	HARDNESS (MG/L AS CACO3) (00900)	HARDNESS, NONCARBONATE (MG/L CACO3) (00902)	CALCIUM DISSOLVED (MG/L AS CA) (00915)	MAGNESIUM, DISSOLVED (MG/L AS MG) (00925)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	POTASSIUM, DISSOLVED (MG/L AS K) (00935)	ALKALINITY FIELD (MG/L AS CACO3) (00410)	CARBON DIOXIDE DISSOLVED (MG/L AS CO2) (00405)	SULFATE DISSOLVED (MG/L AS SO4) (00945)	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)
OCT 18...	190	36	48	18	9.9	2.8	158	.8	32	18
NOV 16...	--	--	--	--	--	--	144	18	--	--
DEC 20...	--	--	--	--	--	--	197	9.6	--	--
JAN 11...	--	--	--	19	12	2.6	172	13	54	17
FEB 23...	--	--	--	--	--	--	138	2.7	--	--
MAR 13...	--	--	--	--	--	--	164	2.5	--	--
APR 11...	200	58	53	16	7.0	2.4	141	2.7	45	12
MAY 15...	--	--	--	--	--	--	132	4.0	--	--
JUN 13...	--	--	--	--	--	--	120	5.8	--	--
JUL 12...	220	56	56	19	7.0	3.1	162	3.9	43	12
AUG 08...	--	--	--	--	--	--	182	2.8	--	--
SEP 05...	--	--	--	--	--	--	162	2.5	--	--

K--Results based on colony count outside the acceptable range (non-ideal colony count).

05501600 MISSISSIPPI RIVER AT HANNIBAL, MO--Continued

DATE	FLUORIDE, DISSOLVED (MG/L AS F) (00950)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L) (70300)	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MG/L) (00530)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITROGEN, AMMONIA TOTAL (MG/L AS N) (00610)	PHOSPHORUS, TOTAL (MG/L AS P) (00665)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD) (01027)	CADMIUM DISSOLVED (UG/L AS CD) (01025)	COPPER, TOTAL RECOVERABLE (UG/L AS CU) (01042)	COPPER DISSOLVED (UG/L AS CU) (01040)
OCT 18...	.20	240	42	1.4	.050	.190	<2	<2	<5	<5
NOV 16...	--	--	120	4.0	.120	.260	--	--	--	--
DEC 20...	--	--	24	5.7	.190	.180	--	--	--	--
JAN 11...	.30	347	17	4.5	.260	.150	<2	<2	<5	<5
FEB 23...	--	--	180	4.4	.510	.350	--	--	--	--
MAR 13...	--	--	52	3.8	.160	.230	--	--	--	--
APR 11...	.20	272	506	4.4	.090	.250	<2	<2	9	<5
MAY 15...	--	--	160	3.5	.070	.190	--	--	--	--
JUN 13...	--	--	240	4.6	.040	.340	--	--	--	--
JUL 12...	.30	284	104	.60	.040	.230	<1	<1	8	3
AUG 08...	--	--	36	3.4	<.010	.150	--	--	--	--
SEP 05...	--	--	30	.70	.200	.160	--	--	--	--

DATE	IRON, TOTAL RECOVERABLE (UG/L AS FE) (01045)	IRON, DISSOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOVERABLE (UG/L AS PB) (01051)	LEAD, DISSOLVED (UG/L AS PB) (01049)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN) (01055)	MANGANESE, DISSOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOVERABLE (UG/L AS HG) (71900)	MERCURY DISSOLVED (UG/L AS HG) (71890)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN) (01092)	ZINC, DISSOLVED (UG/L AS ZN) (01090)
OCT 18...	2000	30	<5	<5	120	22	<.2	.2	20	<10
NOV 16...	--	--	--	--	--	--	--	--	--	--
DEC 20...	--	--	--	--	--	--	--	--	--	--
JAN 11...	840	60	<5	<5	65	41	<.2	<.2	10	<10
FEB 23...	--	--	--	--	--	--	--	--	--	--
MAR 13...	--	--	--	--	--	--	--	--	--	--
APR 11...	11000	110	8	<5	330	<20	<.2	<.2	30	<10
MAY 15...	--	--	--	--	--	--	--	--	--	--
JUN 13...	--	--	--	--	--	--	--	--	--	--
JUL 12...	3300	18	5	5	210	9	<.1	<.1	10	45
AUG 08...	--	--	--	--	--	--	--	--	--	--
SEP 05...	--	--	--	--	--	--	--	--	--	--

BEST COPY AVAILABLE

05502000 BEAR CREEK AT HANNIBAL, MO

LOCATION.--Lat 39°40'43", long 91°24'41", in SE¼NW¼ sec. 1, T.56 N., R.5 W., Ralls County, Hydrologic Unit 07110004, on right bank 42 ft upstream from upstream bridge on dual U.S. Highway 61 at Hannibal, and 4.8 mi upstream from mouth.

DRAINAGE AREA.--31.0 mi².

PERIOD OF RECORD.--October 1938 to September 1942, October 1947 to current year in reports of Geological Survey. Monthly discharge only for some periods, published in WSP 1308. October 1936 to November 1938 (gage heights and discharge measurements only) in reports of Missouri Geological Survey.

REVISED RECORDS.--WSP 1115: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 508.91 ft National Geodetic Vertical Datum of 1929. Prior to Mar. 26, 1948, nonrecording gage, and Mar. 26, 1948, to Sept. 30, 1953, water-stage recorder, present site and datum 2.00 ft higher. Oct. 1, 1953 to Oct. 30, 1961, water-stage recorder at present site and datum, Oct. 31, 1961, to Sept. 5, 1972, water-stage recorder 400 ft downstream at present datum.

REMARKS.--Records fair. High flow regulated by Bear Creek flood control reservoir, 1.0 mi upstream, since Aug. 7, 1961. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--41 years, 20.3 ft³/s, 8.89 in/yr, 14,710 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,500 ft³/s Aug. 3, 1957, gage height, 14.05 ft, present datum; no flow at times in several years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 796 ft³/s Nov. 28, gage height, 8.24 ft; minimum daily, 0.51 ft³/s Oct. 4.

DISCHARGE (CUBIC FEET/SECOND) WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.54	1.7	12	8.3	4.1	15	20	105	11	4.4	2.7	2.4
2	.55	279	11	7.5	4.5	17	19	92	9.3	4.4	2.4	2.2
3	.54	75	36	7.0	4.8	18	42	38	9.3	3.6	2.4	2.4
4	.51	130	122	7.0	4.4	33	42	24	8.7	5.7	2.2	2.7
5	.53	12	67	13	5.2	26	32	19	8.7	5.2	2.2	3.0
6	.57	8.5	42	29	5.4	12	20	18	9.3	6.2	2.0	4.0
7	.63	8.5	16	22	3.7	12	18	16	15	4.4	2.0	14
8	.79	7.6	15	17	3.3	12	98	13	9.3	4.4	1.8	35
9	1.2	8.5	14	13	3.6	9.9	132	13	126	4.0	1.8	70
10	.99	63	37	11	4.4	12	108	13	278	2.7	1.6	100
11	1.1	20	329	14	4.4	9.9	42	12	246	7.7	1.6	197
12	1.6	8.0	414	7.3	36	9.5	77	11	31	5.7	1.4	20
13	1.1	6.3	114	6.2	21	9.5	47	15	9.3	8.2	1.4	5.0
14	.88	5.5	77	6.5	9.4	10	33	11	8.2	4.8	1.1	3.0
15	.80	5.3	22	5.4	9.2	96	39	9.9	7.7	6.2	1.1	2.0
16	.73	5.1	14	7.1	21	175	32	9.9	8.2	4.0	2.0	1.7
17	.73	5.0	12	7.3	70	192	26	9.3	6.7	4.0	2.7	1.6
18	.73	5.0	12	6.4	94	155	20	8.2	6.2	3.3	2.7	1.6
19	1.1	5.3	12	7.0	112	201	18	8.7	5.7	3.6	2.0	1.4
20	1.7	8.0	12	7.7	91	211	18	99	5.7	3.3	1.6	1.1
21	16	6.9	11	7.6	20	174	134	113	5.7	3.3	2.4	1.1
22	30	5.4	9.9	9.0	17	42	175	100	5.7	3.0	3.3	1.4
23	3.2	375	11	7.6	13	30	157	50	5.2	3.0	2.4	2.0
24	2.2	94	12	5.5	11	71	143	15	4.8	2.7	2.4	1.8
25	2.0	16	18	5.0	11	155	127	14	4.4	2.7	2.2	1.4
26	1.9	12	22	5.8	11	162	75	14	4.4	3.0	2.2	1.4
27	1.9	182	16	5.8	14	182	22	33	4.4	3.3	2.2	1.6
28	1.9	528	13	4.9	14	124	18	38	4.0	3.0	2.0	1.8
29	1.7	141	11	4.9	11	32	117	19	4.0	3.0	2.0	1.8
30	1.9	16	10	4.4	---	24	113	15	4.0	3.0	1.8	1.8
31	2.1	---	10	3.5	---	22	---	13	---	2.7	1.6	---
TOTAL	82.12	2043.6	1533.9	273.7	633.4	2253.8	1962	969.0	865.9	128.5	63.2	486.2
MEAN	2.65	68.1	49.5	8.83	21.8	72.7	65.4	31.3	28.9	4.15	2.04	16.2
MAX	30	528	414	29	112	211	175	113	278	8.2	3.3	197
MIN	.51	1.7	9.9	3.5	3.3	9.5	18	8.2	4.0	2.7	1.1	1.1

CAL YR 1983	TOTAL 9709.17	MEAN	26.6	MAX	528	MIN	.15
WTR YR 1984	TOTAL 11295.32	MEAN	30.9	MAX	528	MIN	.51

05502300 NORTH FORK SALT RIVER AT HAGERS GROVE, MO

LOCATION.--Lat 39°49'40", long 92°14'10", in NE¼SW¼ sec. 15, T.58 N., R.12 W., Shelby County, Hydrologic Unit 07110005, at bridge on State Highway 151, 200 ft downstream from old channel carrying Bear Creek, 0.25 mi west of Hagers Grove, 2.5 mi upstream from Ten Mile Creek, and at mile 143.8.

DRAINAGE AREA.--365 mi^2.

PERIOD OF RECORD.--September 1974 to current year. (Prior to October 1983 published as Salt River at Hagers Grove, Mo.). September 1939 to August 1974, gage height and miscellaneous measurements published by Corps of Engineers.

GAGE.--Water-stage recorder. Datum of gage is 702.30 ft National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--10 years, 290 ft^3/s, 10.79 in/yr, 210,100 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height, 19.7 ft June 6, 1947, discharge, 26,900 ft^3/s.

EXTREMES OUTSIDE PER[illegible] OF RECORD.--Flood of June 1928 reached a stage of 19.1 ft, according to information furnished by Corps of Engineers.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 5,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 28	0415	6,380	15.98
Mar. 16	0830	6,150	15.75
May 3	2330	6,710	16.20
May 20	1200	6,190	15.79
June 11	0030	*10,800	17.70

Minimum discharge, 1.9 ft^3/s Oct. 8, 23, 24, 25.

DISCHARGE (CUBIC FEET/SECOND) WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.6	11	103	30	92	68	144	462	90	33	6.7	2.5
2	3.3	99	73	29	86	66	132	215	66	26	6.3	2.5
3	2.8	156	62	30	152	65	420	5220	52	22	6.2	2.5
4	2.4	193	114	37	183	72	1500	3800	70	33	5.9	2.5
5	2.7	49	181	43	176	103	1220	733	74	28	5.8	3.2
6	3.0	32	157	83	124	122	348	324	44	24	4.5	3.2
7	3.5	22	87	195	92	95	206	230	36	21	4.5	3.3
8	3.0	14	63	473	52	81	1890	174	3550	22	4.8	6.0
9	3.2	20	55	383	31	76	2670	134	3900	21	4.3	6.2
10	2.7	414	36	215	36	77	875	109	9350	17	3.8	38
11	3.2	675	1320	132	50	76	363	92	5940	16	2.6	190
12	6.6	161	3060	99	121	68	447	81	1410	28	4.2	65
13	4.3	73	925	70	184	101	630	1160	415	33	4.5	35
14	4.6	44	317	60	110	86	266	1080	188	21	5.4	19
15	6.9	29	135	50	72	967	505	238	2070	17	4.2	11
16	4.9	21	59	40	73	5000	346	140	2620	80	4.3	8.4
17	3.9	17	81	33	204	1980	202	101	868	51	4.1	9.8
18	3.2	14	79	27	456	865	153	79	209	25	3.9	9.3
19	4.6	45	69	23	577	1350	117	68	128	15	3.3	6.8
20	5.9	54	53	19	303	1600	95	4820	92	12	3.0	5.4
21	29	25	37	16	181	780	1550	2210	77	11	2.6	4.8
22	233	131	33	14	147	968	2870	856	68	9.3	2.4	5.1
23	52	2320	32	14	125	2150	1120	862	61	9.5	2.1	5.4
24	21	1610	31	15	109	2270	365	258	51	8.5	2.1	5.4
25	16	316	30	16	95	2770	215	155	44	8.1	2.1	5.4
26	11	114	30	27	86	1110	186	161	39	103	2.3	4.8
27	6.8	2790	29	183	87	2330	155	436	360	173	3.4	5.1
28	4.7	4950	29	236	84	1050	125	993	238	107	3.8	5.4
29	3.9	1290	29	195	73	393	299	610	81	21	2.7	6.4
30	3.3	257	30	173	---	228	1220	219	44	11	2.5	6.4
31	[illegible]	---	30	135	---	170	---	130	---	8.7	2.5	---
TOTAL	46[illegible].8	15946	7369	3095	4161	27137	20634	26150	32235	1015.1	120.8	483.8
MEAN	14.9	532	238	99.8	143	875	688	844	1075	32.7	3.90	16.1
MAX	233	4950	3060	473	577	5000	2870	5220	9350	173	6.7	190
MIN	2.4	11	29	14	31	65	95	68	36	8.1	2.1	2.5

CAL YR 1983	TOTAL	113094.2	MEAN	310	MAX	18800	MIN	1.8
WTR YR 1984	TOTAL	138809.5	MEAN	379	MAX	9350	MIN	2.1

05502300 NORTH FORK SALT RIVER AT HAGERS GROVE, MO--Continued

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984
INSTANTANEOUS OBSERVATIONS AT 0800

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.30	.33	1.60	.86	1.67	.53	1.24	3.36	.95	.66	.40	.26
2	.29	1.92	1.35	.85	1.57	.50	1.10	---	.74	.56	.39	.26
3	.27	.91	1.15	.86	1.88	.48	2.78	14.07	.56	.51	.39	.26
4	.24	2.45	1.57	---	2.26	.59	4.89	14.58	.46	.49	.38	.26
5	.24	1.11	2.11	---	2.48	.81	6.63	4.52	.80	.58	.38	.29
6	.23	.89	2.01	---	1.66	1.05	2.77	2.67	.46	.53	.32	.29
7	.29	.77	1.38	---	2.16	.77	1.77	2.06	.38	.47	.33	.28
8	.23	.63	.98	---	1.07	.50	4.18	1.66	9.70	.48	.35	.28
9	.27	.51	1.20	---	.87	.52	10.60	1.32	9.01	.48	.33	.43
10	.24	2.03	.78	---	.90	.57	5.28	1.09	17.09	.41	.31	.32
11	.27	4.62	4.06	---	1.06	.51	2.82	.95	16.46	.40	.26	2.18
12	.41	2.06	12.10	---	1.56	.70	2.50	.85	5.80	.36	.26	1.05
13	.32	1.38	5.76	---	2.09	.66	4.61	1.97	3.33	.59	.28	.77
14	.32	1.07	2.86	---	1.68	.65	2.20	6.23	2.10	.46	.31	.54
15	.46	.85	---	---	1.33	1.52	3.26	2.17	4.39	.40	.35	.35
16	.37	.73	---	---	1.12	15.71	2.76	1.38	11.38	.36	.33	.27
17	.32	.66	---	---	2.27	8.05	1.77	1.05	5.62	.79	.32	.26
18	.27	.61	---	---	2.28	5.09	1.32	.83	2.27	.52	.32	.32
19	.35	.60	---	---	3.72	5.87	.99	.70	1.59	.38	.30	.23
20	.40	1.21	.99	---	2.52	7.63	.79	15.35	1.26	.33	.28	.16
21	.79	.80	.97	---	1.58	4.51	2.05	8.85	1.12	.31	.27	.15
22	3.53	.64	.90	---	1.25	4.56	9.01	3.22	1.02	.27	.26	.13
23	1.19	8.51	.88	---	1.06	9.51	6.32	5.47	.98	.28	.25	.17
24	.75	7.97	.87	---	.90	7.38	2.72	2.33	.88	.26	.24	.17
25	.64	2.86	.86	---	.80	11.38	1.85	1.49	.80	.25	.24	.15
26	.56	1.73	.86	---	.71	5.04	1.37	1.74	.73	.25	.25	.15
27	.44	5.59	.84	2.47	.70	9.33	1.10	1.16	1.82	.82	.26	.13
28	.35	15.78	.85	2.59	.70	5.96	.83	4.95	2.56	1.39	.31	.18
29	.31	7.09	.85	2.42	.55	3.04	.65	4.33	1.20	.65	.26	.21
30	.29	2.59	.86	2.16	---	1.95	6.86	2.03	.82	.50	.26	.21
31	.31	---	.86	2.06	---	1.48	---	1.30	---	.46	.26	---
MEAN	.49	2.63	---	---	1.53	3.77	3.23	---	3.54	.49	.30	.36
MAX	3.53	15.78	---	---	3.72	15.71	10.60	---	17.09	1.39	.40	2.18
MIN	.23	.33	---	---	.55	.48	.65	---	.38	.25	.24	.13

05503500 NORTH FORK SALT RIVER NEAR HUNNEWELL, MO

LOCATION.--Lat 39°40'05", long 91°54'11", in SE¼SE¼NE¼, sec.9, T.56 N., R.9 W., Shelby County, Hydrologic Unit 07110005, on right bank near downstream end of bridge on U.S. Highway 36, 1.5 mi downstream from Black Creek and 2 mi west of Hunnewell, Mo., at mile 105.8.

DRAINAGE AREA.--626 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1931 to September 1940, October 1979 to current year. April 1930 to September 1931 (fragmentary), October 1931 to September 1940 (published as Salt River near Hunnewell, Mo.), March 1966 to June 1967 (gage heights only), July 1967 to September 1979 (published by Corps of Engineers), and October 1979 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 615.64 ft National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--14 years (water years 1932-40, 1980 to current year), 422 ft^3/s, 9.15 in/yr, 305,700 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 22,560 ft^3/s April 23, 1973, gage height, 25.16 ft.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 7,300 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 29	1900	7,470	15.93
June 9	2300	7,570	16.03
June 12	1600	*7,930	16.38

Minimum daily discharge, 0.45 ft^3/s Sept. 6, 7.

DISCHARGE (CUBIC FEET/SECOND) WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.4	12	510	55	214	108	287	1760	209	83	15	1.1
2	3.7	327	261	56	162	83	253	515	150	63	12	.97
3	3.1	555	205	55	170	78	614	1360	117	50	10	.65
4	2.7	1300	431	53	256	82	1880	4930	95	43	10	.50
5	2.6	723	651	65	275	103	2800	5730	91	39	8.7	.50
6	2.6	243	667	104	150	132	1340	946	133	49	8.4	.45
7	2.5	147	465	307	106	143	539	476	94	45	6.6	.45
8	2.4	104	280	623	78	113	1310	327	228	40	6.2	1.1
9	2.3	81	194	764	70	89	4240	241	6050	36	5.8	3.4
10	2.3	443	170	636	65	82	3760	184	7040	35	4.8	4.6
11	2.7	1440	2120	395	75	82	1070	148	6480	35	3.9	250
12	3.3	828	4350	219	172	82	757	125	7580	30	4.1	366
13	2.6	305	4380	143	438	79	1100	157	3640	33	3.4	143
14	2.6	196	1210	94	463	79	748	1880	514	37	3.0	76
15	2.7	134	569	72	290	541	488	940	1260	37	3.1	45
16	4.4	92	355	62	398	3320	797	301	4790	26	2.8	28
17	5.3	66	363	53	914	5720	494	184	5350	28	3.0	18
18	5.1	50	318	50	1230	3480	320	139	1130	83	3.3	14
19	6.7	42	196	49	1560	2920	236	126	352	40	3.7	12
20	8.0	76	148	43	957	3400	183	2220	203	24	3.2	12
21	15	164	113	38	454	2390	939	5610	143	18	2.9	11
22	65	130	78	35	297	1620	4410	4940	114	14	3.2	10
23	620	1860	72	35	221	2280	5620	1650	97	13	2.4	12
24	214	3420	70	36	176	2800	2220	972	86	11	2.2	10
25	76	1910	70	38	143	4690	631	405	77	10	1.8	8.5
26	35	462	62	42	127	4270	395	481	64	9.1	1.5	7.7
27	24	1980	58	64	128	3290	277	395	56	14	1.7	8.0
28	18	5310	61	205	125	3260	210	1470	481	137	2.2	8.3
29	13	6940	62	352	111	1220	191	1400	318	128	2.0	7.7
30	11	2960	56	347	---	573	1270	639	136	52	2.1	7.6
31	12	---	55	267	---	375	---	327	---	25	1.7	---
TOTAL	1175.0	32300	18600	5357	9825	47484	39379	40979	47078	1287.1	144.7	1068.52
MEAN	37.9	1077	600	173	339	1532	1313	1322	1569	41.5	4.67	35.6
MAX	620	6940	4380	764	1560	5720	5620	5730	7580	137	15	366
MIN	2.3	12	55	35	65	78	183	125	56	9.1	1.5	.45

CAL YR 1983 TOTAL 187755.15 MEAN 514 MAX 16300 MIN .80
WTR YR 1984 TOTAL 244677.32 MEAN 669 MAX 7580 MIN .45

05503500 NORTH FORK SALT RIVER NEAR HUNNEWELL, MO--Continued

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAT OCTOBER 1983 TO SEPTEMBER 1984
INSTANTANEOUS OBSERVATIONS AT 0800

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.12	2.25	4.95	---	3.90	3.34	4.15	8.15	3.88	3.31	2.52	1.91
2	2.09	3.06	4.09	---	3.64	3.27	4.00	4.91	3.64	3.10	2.42	1.89
3	2.07	5.11	3.78	---	3.64	3.22	4.55	4.19	3.47	2.96	2.36	1.85
4	2.05	6.74	4.40	---	3.91	3.21	7.59	12.56	3.34	2.86	2.38	1.83
5	2.03	5.80	5.13	---	4.13	3.36	10.02	15.19	3.27	2.82	2.32	1.83
6	2.03	3.96	5.33	---	3.55	3.52	7.37	6.05	3.55	2.98	2.31	1.82
7	2.03	3.45	4.78	---	3.28	3.60	4.98	4.76	3.33	2.87	2.25	1.82
8	2.02	3.22	4.15	---	3.23	3.45	5.07	4.28	3.14	2.84	2.23	1.81
9	2.02	3.02	3.73	---	3.12	3.31	11.80	3.99	14.02	2.78	2.21	2.10
10	2.02	---	3.73	---	3.06	3.25	12.62	3.77	15.76	2.75	2.17	2.14
11	2.01	7.07	7.65	---	3.12	3.27	6.49	3.61	14.70	2.77	2.14	2.92
12	2.12	6.46	11.87	---	3.51	3.24	5.24	3.51	15.96	2.69	2.12	4.43
13	2.05	4.24	13.40	---	4.45	3.23	6.13	3.51	13.41	2.76	2.12	3.69
14	2.05	3.74	6.83	---	4.57	3.15	5.68	8.22	4.93	2.68	2.08	3.30
15	2.06	3.48	5.13	---	4.14	3.95	4.63	6.43	4.10	2.80	2.09	2.96
16	2.15	3.20	4.44	---	3.93	9.70	5.89	4.22	12.48	2.66	2.08	2.71
17	2.22	3.02	4.36	---	5.87	13.84	4.84	3.78	14.63	2.57	2.07	2.54
18	2.21	2.89	4.19	---	5.63	11.75	4.28	3.58	6.67	3.25	2.11	2.40
19	2.24	2.80	3.79	---	7.64	10.42	3.98	3.44	4.42	2.86	2.13	2.32
20	2.33	2.79	3.63	---	6.34	10.86	3.77	7.13	3.90	2.66	2.10	2.31
21	2.54	3.58	3.43	---	4.71	9.64	4.55	13.50	3.62	2.55	2.07	2.32
22	2.64	3.40	3.26	---	4.18	7.60	11.79	14.71	3.50	2.46	2.11	2.26
23	5.74	6.98	---	---	3.92	8.20	14.09	7.44	3.39	2.42	2.05	2.34
24	4.05	10.91	---	---	3.74	10.06	9.74	6.46	3.33	2.37	2.03	2.28
25	3.22	9.18	---	---	3.59	12.66	5.29	4.52	3.23	2.36	1.99	2.21
26	2.80	4.76	---	---	3.50	13.13	4.49	5.01	3.10	2.31	1.95	2.17
27	2.62	4.37	---	2.99	3.52	10.03	4.11	4.14	3.03	2.27	1.95	2.15
28	2.52	13.33	---	3.24	3.50	11.30	3.87	7.30	5.19	3.24	2.01	2.20
29	2.39	15.11	---	4.56	3.44	6.92	3.68	7.33	4.38	3.59	1.99	2.17
30	2.30	11.51	---	4.29	---	5.10	6.26	5.35	3.65	3.02	2.00	2.16
31	2.28	---	---	3.97	---	4.44	---	4.31	---	2.71	1.99	---
MEAN	2.42	---	---	---	4.10	6.65	6.36	6.30	6.30	2.78	2.14	2.36
MAX	5.74	---	---	---	7.64	13.84	14.09	15.19	15.96	3.59	2.52	4.43
MIN	2.01	---	---	---	3.06	3.15	3.68	3.44	3.03	2.27	1.95	1.81

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--
SUSPENDED-SEDIMENT: July 1980 to current year.

EXTREMES FOR PERIOD OF RECORD.--
SUSPENDED-SEDIMENT CONCENTRATIONS: Maximum daily mean, 3,400 mg/L June 13, 1981; minimum daily mean, 1 mg/L November 29, 30 and December 3, 1980.
SUSPENDED-SEDIMENT LOADS: Maximum daily, 35,900 tons April 30, 1984; minimum daily, 0.03 tons November 29, 30 and December 3, 1980.

EXTREMES FOR CURRENT YEAR.--
SUSPENDED-SEDIMENT CONCENTRATIONS: Maximum daily mean, 2,970 mg/L March 16; minimum daily mean, 8 mg/L October 19.
SUSPENDED-SEDIMENT LOADS: Maximum daily, 35,900 tons April 30; minimum daily, 0.08 tons October 7 and 10.

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT

DATE	STREAM-FLOW, INSTAN-TANEOUS (CFS) (00061)	SED. SUSP. FALL DIAM. % FINER THAN .002 MM (70337)	SED. SUSP. FALL DIAM. % FINER THAN .004 MM (70338)	SED. SUSP. FALL DIAM. % FINER THAN .008 MM (70339)	SED. SUSP. FALL DIAM. % FINER THAN .016 MM (70340)	SED. SUSP. FALL DIAM. % FINER THAN .062 MM (70342)	SED. SUSP. FALL DIAM. % FINER THAN .125 MM (70343)	SED. SUSP. FALL DIAM. % FINER THAN .250 MM (70344)	SED. SUSP. FALL DIAM. % FINER THAN .500 MM (70345)	SED. SUSP. FALL DIAM. % FINER THAN 1.00 MM (70346)
APR , 1984										
12...	3840	53	56	62	74	92	94	97	100	100
JUN										
12...	7800	75	79	82	84	93	95	96	99	100

PARTICLE-SIZE DISTRIBUTION OF SURFACE BED MATERIAL

DATE	BED MAT. SIEVE DIAM. % FINER THAN .062 MM (80164)	BED MAT. SIEVE DIAM. % FINER THAN .125 MM (80165)	BED MAT. SIEVE DIAM. % FINER THAN .250 MM (80166)	BED MAT. SIEVE DIAM. % FINER THAN .500 MM (80167)	BED MAT. SIEVE DIAM. % FINER THAN 1.00 MM (80168)	BED MAT. SIEVE DIAM. % FINER THAN 2.00 MM (80169)	BED MAT. SIEVE DIAM. % FINER THAN 4.00 MM (80170)	BED MAT. SIEVE DIAM. % FINER THAN 8.00 MM (80171)	BED MAT. SIEVE DIAM. % FINER THAN 16.0 MM (80172)	BED MAT. SIEVE DIAM. % FINER THAN 32.0 MM (80173)
OCT , 1983										
18...	3	4	11	20	23	26	31	39	47	76
FEB , 1984										
22...	0	0	1	2	5	10	16	24	43	83
APR										
10...	5	10	26	53	77	85	88	91	96	100
JUL										
13...	1	2	9	21	23	26	33	47	64	91
AUG										
07...	0	1	6	15	17	19	24	40	73	100

05503500 NORTH FORK SALT RIVER NEAR HUNNEWELL, MO--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DAY	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		OCTOBER			NOVEMBER			DECEMBER	
1	4.4	24	.29	12	61	2.0	510	177	244
2	3.7	19	.19	327	149	273	261	126	89
3	3.1	21	.18	555	165	247	205	112	62
4	2.7	19	.14	1300	312	1830	431	113	131
5	2.6	21	.15	723	222	433	651	109	191
6	2.6	14	.10	243	117	76	667	104	187
7	2.5	12	.08	147	87	35	465	100	126
8	2.4	15	.10	104	75	21	280	90	68
9	2.3	16	.10	81	86	19	194	89	47
10	2.3	13	.08	443	145	173	170	63	29
11	2.7	15	.11	1440	233	906	2120	476	3240
12	3.3	27	.24	828	270	603	4350	691	8890
13	2.6	38	.27	305	187	154	4380	442	5230
14	2.6	30	.21	196	125	66	1210	226	738
15	2.7	37	.27	134	90	32	569	148	228
16	4.4	64	.76	92	78	19	355	93	90
17	5.3	57	.82	66	73	13	363	74	72
18	5.1	13	.18	50	68	9.2	318	76	65
19	6.7	8	.14	42	70	8.0	196	---	---
20	8.0	10	.21	76	77	16	148	---	---
21	15	16	.65	164	82	36	113	---	---
22	65	135	116	130	84	30	78	---	---
23	620	302	1080	1860	528	4210	72	---	---
24	214	165	95	3420	636	7580	70	---	---
25	76	134	27	1910	346	1790	70	---	---
26	35	118	11	462	220	275	62	---	---
27	24	103	6.7	1980	424	4000	58	---	---
28	18	96	4.7	5310	613	10900	61	---	---
29	13	87	3.1	6940	361	8360	62	---	---
30	11	76	2.3	2960	255	2030	56	---	---
31	12	67	2.2	---	---	---	55	---	---
TOTAL	1175.0	---	1353.27	32300	---	44146.2	18600	---	19727
		JANUARY			FEBRUARY			MARCH	
1	55			214	---	---	108	56	16
2	56			162	---	---	83	69	15
3	55			170	---	---	78	67	14
4	53			256	---	---	82	70	16
5	65			275	---	---	103	71	20
6	104			150	---	---	132	67	24
7	307			106	---	---	143	93	36
8	623			78	---	---	113	76	23
9	764			70	---	---	89	83	20
10	636			65	---	---	82	68	15
11	395			75	---	---	82	64	14
12	219			172	---	---	82	60	13
13	143			438	139	164	79	59	13
14	94			463	180	225	79	71	15
15	72			290	168	132	541	302	441
16	62			398	161	173	3320	2970	32000
17	53			914	565	1390	5720	1710	26400
18	50			1230	639	2120	3480	989	9290
19	49			1560	1320	5560	2920	932	7350
20	43			957	584	1510	3400	823	7560
21	38			454	406	498	2390	474	3060
22	35			297	246	197	1620	351	1540
23	35			221	177	106	2280	529	3260
24	36			176	122	58	2800	822	6210
25	38			143	103	40	4690	1180	14900
26	42			127	100	34	4270	784	9040
27	64			128	98	34	3290	817	7260
28	205			125	109	37	3260	597	5250
29	352			111	98	29	1220	421	1390
30	347			---	---	---	573	246	381
31	267			---	---	---	375	147	149
TOTAL	5357			9825	---	12307	47484	---	135735

05503500 NORTH FORK SALT RIVER NEAR HUNNEWELL, MO--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DAY	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		APRIL			MAY			JUNE	
1	287	126	98	1760	1200	5700	209	167	94
2	253	121	83	515	583	811	150	149	60
3	614	221	366	1360	1460	11000	117	132	42
4	1880	447	2270	4930	2160	28800	95	115	30
5	2800	694	5250	5730	1170	18100	91	106	26
6	1340	315	1140	946	412	1050	133	93	33
7	539	180	262	476	256	329	94	116	29
8	1310	327	1160	327	166	147	228	638	1200
9	4240	775	8870	241	129	84	6050	2100	35400
10	3760	423	4290	184	121	60	7040	914	17400
11	1070	247	714	148	104	42	6480	727	12700
12	757	209	427	125	109	37	7580	531	10900
13	1100	272	808	157	222	94	3640	508	5980
14	748	374	755	1880	2090	12900	514	778	1080
15	488	250	329	940	1110	2820	1260	1570	9260
16	797	243	523	301	507	412	4790	1560	20200
17	494	165	220	184	288	143	5350	704	10200
18	320	118	102	139	204	77	1130	511	1560
19	236	110	70	126	217	74	352	300	285
20	183	142	70	2220	1650	15100	203	202	111
21	939	683	3160	5610	1050	15300	143	165	64
22	4410	1380	16400	4940	1540	20500	114	137	42
23	5620	1040	15800	1650	618	2750	97	123	32
24	2220	454	2720	972	684	1800	86	89	21
25	631	176	300	406	328	360	77	80	17
26	395	128	136	481	424	551	64	96	17
27	277	109	82	395	486	518	56	132	20
28	210	105	60	1470	1210	4800	481	450	584
29	191	150	77	1400	714	2700	318	1370	1180
30	1270	1230	35900	639	393	678	136	1020	375
31	---	---	---	327	228	201	---	---	---
TOTAL	39379	---	102442	40979	---	148538	47078	---	129942
		JULY			AUGUST			SEPTEMBER	
1	83	764	171	15	439	18	1.1	98	.29
2	63	579	98	12	375	12	.97	91	.24
3	50	478	65	10	356	9.6	.65	81	.14
4	43	393	46	10	375	10	.50	66	.09
5	39	353	37	8.7	334	7.9	.50	96	.13
6	49	304	40	8.4	301	6.8	.45	114	.14
7	45	240	29	6.6	250	4.5	.45	126	.15
8	40	196	21	6.2	225	3.8	1.1	116	.34
9	36	158	15	5.8	205	3.2	3.4	109	1.0
10	35	125	12	4.8	148	1.9	4.6	106	1.3
11	35	157	15	3.9	141	1.5	250	303	359
12	30	165	13	4.1	113	1.3	366	610	603
13	33	173	15	3.4	98	.90	143	432	167
14	37	170	17	3.0	77	.62	76	312	64
15	37	144	14	3.1	82	.69	45	285	35
16	26	125	8.8	2.8	102	.77	28	249	19
17	28	102	7.7	3.0	110	.89	18	208	10
18	83	106	24	3.3	108	.96	14	176	6.7
19	40	133	14	3.7	113	1.1	12	164	5.3
20	24	117	7.6	3.2	119	1.0	12	157	5.1
21	18	84	4.1	2.9	102	.80	11	164	4.9
22	14	112	4.2	3.2	77	.67	10	144	3.9
23	13	124	4.4	2.4	98	.64	12	151	4.9
24	11	106	3.2	2.2	126	.75	10	140	3.8
25	10	93	2.5	1.8	119	.58	8.5	149	3.4
26	9.1	99	2.4	1.5	104	.42	7.7	164	3.4
27	14	121	4.6	1.7	95	.44	8.0	152	3.3
28	137	172	64	2.2	101	.60	8.3	121	2.7
29	128	422	146	2.0	80	.43	7.7	80	1.7
30	52	434	61	2.1	60	.34	7.6	99	2.0
31	25	467	32	1.7	94	.43	---	---	---
TOTAL	1287.1	---	998.5	144.7	---	93.53	1068.52	---	1311.92
YEAR	244677.32		595594.42						

05503800 CROOKED CREEK NEAR PARIS, MO

LOCATION.--Lat 39°35'06", long 91°59'36", near NW corner S½ sec.2, T.55 N., R.10 W., Monroe County, Hydrologic Unit 07110005 on right bank downstream from county road bridge, 7 mi north of Paris, 1.4 mi north of State Route 15, and at mile 8.9.

DRAINAGE AREA.--80.0 mi².

PERIOD OF RECORD.--October 1979 to current year. March 1966 to October 1979 published by Corps of Engineers.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 650.00 ft National Geodetic Vertical Datum of 1929. Prior to Nov. 8, 1967 wire-weight gage and Nov. 9, to Sept. 1979 recording gage at datum 50 ft lower.

REMARKS.--Records fair except for periods of no gage height, which are poor. Several observations of water temperature and specific conductance were made during the year.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 12,100 ft³/s April 21, 1973, gage height, 15.53 ft; no flow at times in several years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,650 ft³/s June 9, gage height, 9.23 ft from crest-stage gage. No flow many days.

DISCHARGE (CUBIC FEET/SECOND) WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	4.0	31	4.4	12	33	21	48	35	.79	.02	.00
2	.00	24	17	4.3	11	27	19	21	14	.79	.00	.00
3	.00	225	12	4.0	12	22	344	18	7.5	.72	.00	.00
4	.00	169	74	4.0	14	20	894	18	4.4	1.4	.00	.00
5	.00	34	162	6.0	12	32	329	170	4.4	2.0	.00	.00
6	.00	14	133	32	9.2	36	72	100	4.8	1.4	.00	.00
7	.00	7.0	69	82	6.0	30	38	50	13	1.1	.00	.00
8	.00	37	29	110	4.4	23	527	26	4.0	.79	.00	.00
9	.00	79	19	90	4.0	19	636	20	2000	.86	.00	.00
10	.00	25	15	40	5.1	16	135	18	643	.79	.00	.00
11	.00	11	833	23	7.5	14	61	16	47	1.8	.00	.00
12	.00	8.0	906	13	30	13	125	13	22	1.8	.00	.01
13	.00	7.8	155	7.5	74	12	152	45	13	1.0	.00	.29
14	.00	7.6	73	5.6	44	16	44	250	7.5	.79	.00	.23
15	.00	7.4	43	4.4	25	430	31	150	155	.60	.00	.17
16	.00	6.0	21	3.7	33	707	34	70	593	.55	.00	.10
17	.00	5.1	14	3.7	195	203	25	40	58	.45	.00	.07
18	.00	3.7	9.2	2.9	321	261	16	25	19	.32	.00	.04
19	.00	5.6	7.5	2.4	312	926	13	15	8.6	.26	.00	.02
20	.00	12	6.0	2.2	74	632	9.9	85	5.6	.23	.00	.00
21	.30	22	5.1	2.0	37	243	437	560	4.8	.23	.00	.00
22	15	15	5.1	2.0	26	292	816	200	150	.23	.00	.00
23	14	90	4.4	2.0	20	167	358	50	1250	.17	.00	.00
24	8.6	548	4.0	2.4	15	150	76	31	165	.14	.00	.00
25	8.6	355	4.0	2.9	12	718	35	28	20	.12	.00	.00
26	8.6	52	11	4.0	17	356	24	26	10	.08	.00	.00
27	8.6	24	9.0	6.5	63	567	15	70	16	.07	.00	.00
28	5.6	75	4.6	15	48	350	11	250	7.0	.06	.00	.00
29	4.8	336	5.0	22	38	66	22	130	3.0	.05	.00	.02
30	4.0	74	5.1	17	---	37	157	80	.79	.04	.00	.02
31	4.0	---	4.3	15	---	26	---	54	---	.03	.00	---
TOTAL	82.10	2283.2	2690.3	535.9	1481.2	6444	5476.9	2677	5285.39	19.66	.02	.97
MEAN	2.65	76.1	86.8	17.3	51.1	208	183	86.4	176	.63	.00	.03
MAX	15	548	906	110	321	926	894	560	2000	2.0	.02	.29
MIN	.00	3.7	4.0	2.0	4.0	12	9.9	13	.79	.03	.00	.00

CAL YR 1983	TOTAL	21466.81	MEAN	58.8	MAX	3670	MIN	.00
WTR YR 1984	TOTAL	26976.64	MEAN	73.7	MAX	2000	MIN	.00

BEST COPY AVAILABLE

05503800 CROOKED CREEK NEAR PARIS, MO--Continued

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984
INSTANTANEOUS OBSERVATIONS AT 0800

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.67	2.45	---	---	2.61	---	2.70	2.98	---	2.34	2.05	1.68
2	1.66	2.51	---	---	2.57	---	2.66	2.69	---	2.34	2.04	1.65
3	1.65	4.23	---	---	2.59	---	3.71	2.66	2.72	2.34	2.03	1.64
4	1.63	3.82	---	---	2.62	---	5.93	---	2.61	2.36	2.02	1.62
5	1.62	2.86	---	2.46	2.61	---	4.38	---	2.47	2.40	2.01	1.61
6	1.60	2.63	---	2.78	2.57	---	3.14	---	2.47	2.39	2.00	1.58
7	1.59	2.52	---	3.08	2.50	---	2.86	---	2.62	2.37	2.00	1.58
8	1.58	2.47	---	3.29	2.46	---	4.15	---	2.47	2.34	1.99	1.57
9	1.56	3.21	---	3.22	2.45	---	5.43	---	8.98	2.36	1.98	1.69
10	1.55	2.76	---	2.86	2.47	---	3.49	---	5.78	2.34	1.97	1.69
11	1.54	2.62	---	2.69	2.52	---	3.05	---	2.96	2.43	1.95	1.88
12	1.66	2.56	---	2.62	2.69	---	3.08	---	2.72	2.42	1.94	2.10
13	1.67	---	---	2.54	3.10	---	3.65	---	2.60	---	1.92	2.24
14	1.67	---	---	2.49	2.87	2.58	2.93	---	2.54	2.35	1.89	2.20
15	1.66	---	---	2.46	2.75	3.84	2.78	---	2.49	2.30	1.89	2.19
16	1.65	---	---	2.45	2.69	5.42	2.83	---	5.26	2.30	1.88	2.15
17	1.62	2.50	---	2.44	3.69	3.53	2.75	---	3.03	2.27	1.88	2.11
18	1.62	2.45	---	2.41	3.67	3.99	2.67	---	2.67	2.24	1.85	2.08
19	1.61	2.44	---	2.40	4.39	6.37	2.61	---	2.57	2.23	1.83	2.05
20	1.68	---	---	2.39	3.15	5.44	2.58	---	2.50	2.20	1.82	2.03
21	1.83	---	---	2.38	2.86	3.73	4.10	---	2.48	2.20	1.81	2.01
22	2.72	---	2.48	2.37	2.75	4.11	5.37	---	---	2.20	1.81	2.00
23	2.62	---	2.48	2.37	2.69	3.63	4.62	---	---	2.18	1.81	2.03
24	2.54	---	---	2.39	2.64	3.12	3.15	---	---	2.17	1.79	2.03
25	---	---	---	2.40	2.61	5.57	2.86	---	---	2.15	1.77	2.03
26	---	---	---	2.43	2.58	3.86	2.74	---	---	2.12	1.75	2.03
27	2.56	---	---	2.51	3.08	5.03	2.64	---	---	2.11	1.74	2.02
28	2.49	---	---	2.53	---	3.58	2.58	---	---	2.10	1.75	2.03
29	2.47	---	---	2.72	---	3.09	2.55	---	---	2.08	1.74	2.04
30	2.45	---	---	2.65	---	2.85	3.96	---	2.34	2.07	1.72	2.05
31	2.45	---	---	2.63	---	2.75	---	---	---	2.06	1.70	---
MEAN	---	---	---	---	---	---	3.40	---	---	---	1.88	1.92
MAX	---	---	---	---	---	---	5.93	---	---	---	2.05	2.24
MIN	---	---	---	---	---	---	2.55	---	---	---	1.70	1.57

05505000 SOUTH FORK SALT RIVER AT SANTA FE, MO

LOCATION.--Lat 39°21'45", long 91°49'05", in NW¼NE¼ sec.20, T.53 N., R.8 W., Monroe County, Hydrologic Unit 07110006, on left bank near upstream end of bridge on county road, 0.3 mi south of Santa Fe, 1.0 mi upstream from Elm Creek, and at mile 96.2 above mouth of Salt River.

DRAINAGE AREA.--298 mi².

PERIOD OF RECORD.--October 1939 to current year. Published as "near Santa Fe" October 1969 to September 1975.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 613.05 ft National Geodetic Vertical Datum of 1929. Prior to Feb. 5, 1940, nonrecording gage; Feb. 5, 1940 to Sept. 30, 1968, water-stage recorder; present site and datum, Oct. 1, 1968 to Sept. 30, 1975, water-stage recorder, 6.3 mi upstream at datum 26.04 ft higher.

REMARKS.--Records fair. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--45 years, 199 ft³/s, 9.07 in/yr, 144,200 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 28,800 ft³/s Oct. 13, 1969, gage height, 28.24 ft, at site and datum then in use; no flow at times in several years.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 5,000 ft³/s (revised) and maximum (*):

Date	Time	Discharge (ft³/s)	Gage height (ft)
Nov. 23	1830	5,020	12.03
Dec. 12	0030	6,060	13.33
Mar. 19	1115	7,070	14.52
Apr. 22	1500	6,680	14.09
June 9	0645	*9,600	17.00

Minimum daily discharge, 0.26 ft³/s Oct. 8.

DISCHARGE (CUBIC FEET/SECOND) WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.2	3.1	150	33	47	291	113	265	57	36	2.9	1.1
2	.84	486	107	34	45	339	98	124	46	30	2.6	.99
3	.66	668	236	36	49	776	904	97	37	70	2.5	2.1
4	.52	1840	2230	38	54	1450	1380	107	30	150	2.3	2.3
5	.42	601	948	49	45	1750	615	90	27	100	2.0	2.3
6	.40	218	524	198	39	608	267	109	24	82	1.9	2.3
7	.33	92	318	706	26	264	169	164	22	70	1.6	1.8
8	.26	35	179	756	19	183	1780	140	103	60	1.6	2.3
9	.32	35	130	475	18	149	2770	90	7610	80	1.6	4.1
10	.35	177	112	335	21	112	800	64	3840	150	1.6	19
11	.35	503	3840	150	36	110	353	55	374	353	1.9	346
12	1.1	173	4730	100	521	111	577	48	182	168	1.9	208
13	1.7	107	904	60	619	109	720	79	117	66	1.8	53
14	11	83	552	35	243	106	258	1180	84	34	1.5	28
15	17	75	402	29	128	1450	166	234	781	20	1.3	19
16	8.3	65	191	24	114	3390	138	111	311	15	1.1	17
17	1.1	44	105	21	184	1130	112	74	136	12	.99	13
18	1.0	32	57	18	696	1260	91	56	83	9.8	1.1	8.8
19	1.4	27	55	15	1060	5660	73	48	56	8.4	1.1	6.5
20	47	167	52	12	324	5220	62	57	47	7.7	1.1	5.0
21	79	238	50	10	163	1430	4330	72	182	7.4	1.5	4.2
22	2820	107	48	12	118	920	6030	59	458	6.3	3.1	3.9
23	496	3630	46	15	95	461	2210	111	1760	5.9	3.2	3.9
24	110	2970	44	20	76	444	549	94	1360	5.2	2.4	3.9
25	51	437	42	24	63	2770	291	58	196	4.9	1.6	8.5
26	29	184	43	40	65	1080	196	144	96	4.7	1.1	7.7
27	22	1040	39	62	416	1520	143	213	75	4.7	1.1	5.7
28	19	2620	36	62	402	657	107	481	235	4.4	1.5	4.4
29	14	632	33	67	332	294	95	345	96	4.2	1.5	4.1
30	6.3	243	32	63	---	188	437	128	53	3.6	1.5	3.5
31	3.1	---	32	55	---	141	---	78	---	3.1	1.3	---
TOTAL	3744.65	17532.1	16267	3554	6018	34373	25834	4975	18478	1576.3	54.19	792.39
MEAN	121	584	525	115	208	1109	861	160	616	50.8	1.75	26.4
MAX	2820	3630	4730	756	1060	5660	6030	1180	7610	353	3.2	346
MIN	.26	3.1	32	10	18	106	62	48	22	3.1	.99	.99

CAL YR 1983 TOTAL 113338.46 MEAN 311 MAX 13900 MIN .26
WTR YR 1984 TOTAL 133198.63 MEAN 364 MAX 7610 MIN .26

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05505000 SOUTH FORK SALT RIVER AT SANTA FE, MO--Continued

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984
INSTANTANEOUS OBSERVATIONS AT 0800

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.79	1.94	3.12	---	2.44	3.62	2.86	3.60	2.49	2.36	1.83	1.70
2	1.95	---	2.91	---	2.44	3.79	2.75	2.94	2.37	---	1.81	1.67
3	1.65	---	2.80	---	2.44	5.18	5.10	2.77	2.29	---	1.80	1.77
4	1.75	---	7.99	---	2.49	5.34	6.59	2.77	2.21	---	1.79	1.79
5	1.74	---	5.52	2.35	2.40	7.91	4.66	2.73	2.17	---	1.77	1.79
6	1.74	---	4.29	2.94	21.63	4.55	3.56	2.61	2.15	---	1.76	1.79
7	1.74	---	3.81	4.69	25.23	3.54	3.13	2.93	2.13	---	1.74	1.77
8	1.73	---	3.24	5.11	2.17	3.20	5.29	3.03	2.13	---	1.74	1.74
9	1.75	---	3.03	4.26	2.16	3.12	9.61	2.73	16.92	---	1.74	1.84
10	1.76	---	2.87	3.59	2.18	2.85	5.17	2.55	12.19	---	1.74	2.25
11	1.76	---	9.99	---	2.32	2.82	3.84	2.45	3.90	---	1.75	2.14
12	1.87	---	12.38	---	3.02	2.83	3.50	2.39	3.26	---	1.76	3.43
13	1.90	---	5.18	---	4.78	2.83	5.22	2.39	2.97	---	1.76	2.55
14	2.00	---	4.43	---	3.53	2.77	3.51	6.81	2.77	2.36	1.74	2.30
15	2.27	2.70	4.08	---	3.08	4.50	3.12	3.42	5.74	2.22	1.72	2.17
16	2.16	2.69	3.34	---	2.87	10.61	2.99	2.87	3.76	2.12	1.69	2.17
17	1.87	2.52	---	---	3.23	4.84	2.86	2.62	3.10	2.07	1.68	2.10
18	1.86	2.40	---	---	3.31	6.81	2.75	2.47	2.77	2.03	1.69	2.00
19	1.83	2.33	---	---	6.29	13.85	2.63	2.38	2.57	1.99	1.70	1.94
20	1.92	2.89	---	---	3.77	12.45	2.55	2.44	2.47	1.97	1.70	1.90
21	2.59	3.52	---	---	3.13	6.36	11.77	2.56	3.37	1.96	1.70	1.88
22	9.62	2.95	---	---	2.92	5.33	13.15	2.50	3.18	1.94	1.79	1.86
23	4.26	10.57	---	---	2.77	4.17	8.69	2.68	3.74	1.93	1.84	1.86
24	2.98	9.89	---	---	2.66	3.53	4.43	2.76	6.76	1.91	1.80	1.86
25	2.56	4.07	---	---	2.56	9.27	3.64	2.49	3.35	1.90	1.75	2.00
26	---	3.28	---	2.35	2.50	5.45	3.25	2.37	2.86	1.89	1.72	1.98
27	2.32	3.06	---	2.57	4.14	6.95	3.02	3.31	2.63	1.89	1.71	1.92
28	2.28	9.20	---	2.58	3.96	4.61	2.93	4.14	3.74	1.88	1.72	1.88
29	2.22	4.60	---	2.63	3.75	3.65	2.69	4.14	2.87	1.87	1.73	1.87
30	2.10	3.55	---	2.58	---	3.23	3.85	2.98	2.52	1.85	1.73	1.85
31	1.98	---	---	26.80	---	3.00	---	2.66	---	1.83	1.73	---
MEAN	---	---	---	---	4.49	5.26	4.63	2.95	3.85	---	1.75	1.99
MAX	---	---	---	---	25.23	13.85	13.15	6.81	16.92	---	1.84	3.43
MIN	---	---	---	---	2.16	2.77	2.55	2.37	2.13	---	1.68	1.67

05506500 MIDDLE FORK SALT RIVER AT PARIS, MO

LOCATION.--Lat 39°29'05", long 91°59'50", in NE¼NW¼NW¼ sec.11, T.54 N., R.10 W., Monroe County, Hydrologic Unit 07110006, on right bank near upstream side of bridge on E. Madison Street in Paris, 600 ft downstream from Wabash Railroad bridge, 12.5 mi upstream from Elk Fork Salt River, and at mile 104.5 above mouth of Salt River.

DRAINAGE AREA.--356 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1939 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 621.88 ft National Geodetic Vertical Datum of 1929, 1961 adjustment. Prior to Jan. 22, 1940, nonrecording gage; Jan. 22, 1940 to Sept. 30, 1968, water-stage recorder, 600 ft upstream at present datum.

REMARKS.--Records good. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--45 years, 249 ft³/s, 9.50 in/yr, 180,400 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 45,000 ft³/s Apr. 21, 1973, gage height, 33.5 ft, from floodmark; no flow at times in several years.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 3,500 ft³/s and maximum (*):

Date	Time	Discharge (ft³/s)	Gage height (ft)
June 10	0130	4,230	12.05
June 17	0830	*4,480	12.44

Minimum daily discharge, 0.06 ft³/s Oct. 10.

DISCHARGE (CUBIC FEET/SECOND) WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.29	17	402	46	62	153	146	610	108	85	3.4	1.2
2	.20	55	137	45	53	116	126	273	78	57	3.1	1.0
3	.09	141	139	43	52	93	9[illegible]0	163	61	46	2.8	1.7
4	.14	769	408	40	53	91	3160	731	50	503	2.8	1.6
5	.32	897	515	102	54	142	3080	976	51	288	3.1	1.1
6	.37	222	466	106	43	165	2230	390	53	106	11	1.0
7	.29	80	333	243	41	131	547	155	48	52	7.4	1.0
8	.18	52	193	450	32	100	1430	118	38	37	5.9	2.0
9	.13	39	128	439	28	83	2550	93	2450	30	4.8	5.5
10	.06	62	137	304	28	73	1920	73	3030	25	3.8	9.5
11	.91	340	1503	208	34	76	966	63	1030	662	3.0	11
12	2.8	386	2130	170	62	83	627	55	568	181	2.7	23
13	.76	163	1710	80	112	83	1020	170	155	53	2.4	26
14	.30	91	921	50	168	93	496	1400	83	30	2.2	39
15	.21	78	288	42	155	821	307	676	139	22	2.2	34
16	.13	63	133	35	118	2670	301	194	2560	17	2.2	21
17	.14	34	91	25	163	2050	327	95	4190	14	2.2	14
18	.21	24	91	20	465	1800	188	67	1810	11	2.2	10
19	5.8	22	76	17	901	3380	137	57	228	8.2	2.1	6.4
20	4.1	92	53	15	555	3320	105	1760	100	7.2	2.9	4.7
21	27	288	55	14	243	2320	985	2890	106	7.2	1.8	3.1
22	104	146	45	14	163	1490	2480	2360	390	7.1	2.2	3.4
23	361	1080	42	14	125	1260	2420	1700	2500	5.8	2.5	4.6
24	234	1700	40	17	102	1180	2090	614	1690	5.1	2.6	3.4
25	69	47	41	17	83	2260	1050	294	213	4.5	2.8	3.0
26	36	36	118	22	83	2120	294	141	100	3.9	3.5	2.0
27	23	34	112	27	175	2650	183	375	155	3.8	3.4	1.8
28	22	104	83	30	261	1730	130	1470	920	3.8	2.3	1.8
29	16	2310	48	41	175	1140	234	1070	712	4.1	2.2	1.9
30	11	151	54	66	---	383	817	386	208	4.5	2.2	2.1
31	14	---	43	73	---	199	---	158	---	3.8	1.7	---
TOTAL	934.43	9523	10532	2815	4589	32255	31327	19587	23824	2288.0	99.4	241.9
MEAN	30.1	317	340	90.8	158	1040	1044	632	794	73.8	3.21	8.06
MAX	361	2310	2130	450	901	3380	3160	2890	4190	662	11	39
MIN	.06	17	40	14	28	73	106	55	38	3.8	1.7	1.0

CAL YR 1983	TOTAL 104065.31	MEAN	285	MAX	10000	MIN	.06
WTR YR 1984	TOTAL 138015.73	MEAN	377	MAX	4190	MIN	.06

05506500 MIDDLE FORK SALT RIVER AT PARIS, MO--Continued

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984
INSTANTANEOUS OBSERVATIONS AT 0800

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.62	2.80	4.85	3.18	3.30	3.83	3.90	5.42	3.70	3.54	2.63	2.53
2	2.60	3.41	3.85	3.17	3.22	3.65	3.73	4.44	3.49	3.29	2.62	2.50
3	2.58	3.19	3.60	3.16	3.21	3.52	5.12	3.96	3.34	3.17	2.61	2.55
4	2.56	5.09	4.76	3.12	3.22	3.47	10.40	5.51	3.22	5.48	2.61	2.56
5	2.61	6.27	5.05	3.63	3.23	3.69	10.16	6.09	3.24	4.50	2.61	2.52
6	2.63	4.26	4.94	3.65	3.11	3.89	9.19	4.87	3.17	3.71	2.81	2.48
7	2.62	3.53	4.64	4.26	3.17	3.73	5.16	3.94	3.25	3.25	2.73	2.46
8	2.61	3.26	4.15	4.87	3.04	3.57	5.81	3.73	3.09	3.10	2.70	2.44
9	2.60	3.11	3.81	4.84	2.99	3.45	9.32	3.60	8.76	3.02	2.67	2.69
10	2.57	3.22	3.64	4.46	2.98	3.39	8.26	3.44	11.38	2.95	2.65	2.70
11	2.56	4.50	5.93	4.14	3.02	3.40	6.42	3.35	6.27	5.69	2.62	2.78
12	2.83	4.85	8.58	4.00	3.24	3.42	4.95	3.27	5.43	4.07	2.61	2.92
13	2.68	4.03	7.65	3.47	3.53	3.44	6.57	3.31	3.96	3.33	2.60	3.00
14	2.62	3.57	6.41	3.23	3.93	3.42	5.08	7.04	3.53	3.07	2.59	3.15
15	2.59	3.46	4.48	3.15	3.85	4.69	4.45	5.61	3.34	2.96	2.59	3.14
16	2.56	3.37	3.93	3.08	3.61	9.04	4.44	4.18	8.44	2.89	2.58	2.93
17	2.56	3.21	3.51	2.97	3.72	7.70	4.60	3.62	12.35	2.83	2.58	2.83
18	2.57	3.10	3.58	2.90	4.67	7.60	4.16	3.41	8.61	2.79	2.58	2.77
19	2.64	3.03	3.45	2.86	6.01	9.46	3.83	3.29	4.30	2.75	2.58	2.70
20	2.81	3.14	3.10	2.83	5.30	9.82	3.64	6.56	3.65	2.72	2.56	2.66
21	3.16	4.54	3.26	2.83	4.33	8.21	5.00	9.85	3.50	2.72	2.56	2.60
22	3.18	3.86	3.17	2.82	3.91	6.93	8.83	8.73	3.47	2.72	2.58	2.58
23	4.27	5.31	3.15	2.81	3.70	6.39	9.14	8.01	8.13	2.71	2.60	2.65
24	4.11	7.63	3.12	2.82	3.56	6.14	8.54	5.32	8.66	2.67	2.60	2.61
25	3.43	7.10	3.10	2.83	3.45	8.27	6.83	4.53	4.22	2.66	2.61	2.60
26	3.11	4.57	3.72	2.98	3.39	7.64	4.45	3.86	3.66	2.64	2.61	2.55
27	2.97	4.56	3.68	2.96	3.80	9.18	4.07	4.16	3.44	2.64	2.63	2.54
28	2.91	9.27	---	3.00	4.39	8.19	3.79	7.11	6.36	2.64	2.59	2.54
29	2.84	8.80	3.20	3.09	4.06	6.84	3.86	6.46	5.75	2.64	2.59	2.54
30	2.73	8.15	3.15	3.29	---	4.76	5.42	4.84	4.24	2.66	2.59	2.56
31	2.79	---	3.16	3.41	---	4.18	---	4.02	---	2.64	2.56	---
MEAN	2.84	4.61	---	3.35	3.69	5.64	5.97	5.02	5.26	3.18	2.61	2.67
MAX	4.27	9.27	---	4.87	6.01	9.82	10.40	9.85	12.35	5.69	2.81	3.15
MIN	2.56	2.80	---	2.81	2.98	3.39	3.64	3.27	3.09	2.64	2.56	2.44

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05506500 MIDDLE FORK SALT RIVER AT PARIS, MO--Continued

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--
SUSPENDED-SEDIMENT: August 1980 to current year.

EXTREMES FOR PERIOD OF RECORD.--
SUSPENDED-SEDIMENT CONCENTRATIONS: Maximum daily mean, 3,170 mg/L July 23, 1981; minimum daily mean, 6 mg/L on many days.
SUSPENDED-SEDIMENT LOADS: Maximum daily, 27,500 tons June 9, 1982; minimum daily, 0.00 tons October 3, 8, 9, and 10, 1983.

EXTREMES FOR CURRENT YEAR.--
SUSPENDED-SEDIMENT CONCENTRATIONS: Maximum daily mean, 2,610 mg/L March 16; minimum daily mean, 8 mg/L October 8.
SUSPENDED-SEDIMENT LOADS: Maximum daily, 18,100 tons June 9; minimum daily, 0.00 tons October 3, 8, 9, and 10.

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT

DATE	STREAM-FLOW, INSTAN-TANEOUS (CFS) (00061)	SED. SUSP. FALL DIAM. % FINER THAN .002 MM (70337)	SED. SUSP. FALL DIAM. % FINER THAN .004 MM (70338)	SED. SUSP. FALL DIAM. % FINER THAN .008 MM (70339)	SED. SUSP. FALL DIAM. % FINER THAN .016 MM (70340)	SED. SUSP. FALL DIAM. % FINER THAN .062 MM (70342)	SED. SUSP. FALL DIAM. % FINER THAN .125 MM (70343)	SED. SUSP. FALL DIAM. % FINER THAN .250 MM (70344)	SED. SUSP. FALL DIAM. % FINER THAN .500 MM (70345)	SED. SUSP. FALL DIAM. % FINER THAN 1.00 MM (70346)
APR , 1984										
10...	1990	49	50	66	70	94	97	99	100	100
JUN										
12...	560	78	90	92	96	99	100	--	--	--

PARTICLE-SIZE DISTRIBUTION OF SURFACE BED MATERIAL

DATE	BED MAT. SIEVE DIAM. % FINER THAN .062 MM (80164)	BED MAT. SIEVE DIAM. % FINER THAN .125 MM (80165)	BED MAT. SIEVE DIAM. % FINER THAN .250 MM (80166)	BED MAT. SIEVE DIAM. % FINER THAN .500 MM (80167)	BED MAT. SIEVE DIAM. % FINER THAN 1.00 MM (80168)	BED MAT. SIEVE DIAM. % FINER THAN 2.00 MM (80169)	BED MAT. SIEVE DIAM. % FINER THAN 4.00 MM (80170)	BED MAT. SIEVE DIAM. % FINER THAN 8.00 MM (80171)	BED MAT. SIEVE DIAM. % FINER THAN 16.0 MM (80172)	BED MAT. SIEVE DIAM. % FINER THAN 32.0 MM (80173)
FEB , 1984										
22...	0	0	0	5	12	23	35	49	67	100
APR										
10...	0	0	5	19	51	70	83	90	100	--
JUL										
13...	0	1	2	6	13	21	28	41	71	100
AUG										
07...	0	1	5	14	31	43	52	65	87	100

05506500 MIDDLE FORK SALT RIVER AT PARIS, MO--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		OCTOBER			NOVEMBER			DECEMBER	
1	.29	25	.02	17	27	1.2	402	41	45
2	.20	16	.01	55	40	5.9	137	63	23
3	.09	19	.00	141	44	17	139	49	18
4	.14	21	.01	769	114	1040	408	47	52
5	.32	23	.02	897	142	1510	515	41	57
6	.37	21	.02	222	86	52	466	43	54
7	.29	23	.02	80	51	11	333	31	28
8	.18	8	.00	52	41	5.8	193	30	16
9	.13	12	.00	39	36	3.8	128	34	12
10	.06	11	.00	62	30	5.0	137	87	32
11	.91	10	.02	340	36	33	1500	611	2470
12	2.8	10	.08	386	52	54	2130	407	2340
13	.76	10	.02	163	38	17	1710	635	2930
14	.30	9	.01	91	30	7.4	921	216	537
15	.21	34	.02	78	28	5.9	288	47	37
16	.13	36	.01	63	32	5.4	133	50	18
17	.14	40	.02	34	34	3.1	91	26	6.4
18	.21	40	.02	24	29	1.9	91	23	5.7
19	5.8	34	.53	22	25	1.5	76	22	4.5
20	4.1	35	.39	92	46	11	53	29	4.2
21	27	35	2.6	288	54	42	55	44	6.5
22	104	36	10	146	135	53	45	25	3.0
23	361	78	290	1080	884	2580	42	45	5.1
24	234	96	61	1700	394	1810	40	25	2.7
25	69	81	15	47	95	12	41	20	2.2
26	36	52	5.1	36	39	3.8	118	36	11
27	23	39	2.4	34	121	11	112	65	20
28	22	32	1.9	104	268	75	83	67	15
29	16	30	1.3	2310	177	1100	48	59	7.7
30	11	32	.95	151	68	28	54	54	7.9
31	14	29	1.1	---	---	---	43	36	4.2
TOTAL	934.43	---	392.57	9523	---	8506.7	10532	---	8775.1
		JANUARY			FEBRUARY			MARCH	
1	46	37	4.6	62	103	17	153	79	33
2	45	54	6.6	53	67	9.6	116	84	26
3	43	35	4.1	52	66	9.3	93	80	20
4	40	36	3.9	53	59	8.4	91	67	16
5	102	40	11	54	56	8.2	142	52	20
6	106	36	10	43	59	6.9	165	60	27
7	243	43	28	41	57	6.3	131	66	23
8	450	38	46	32	56	4.8	100	67	18
9	439	40	47	28	63	4.8	83	59	13
10	304	50	41	28	54	4.1	73	80	16
11	208	45	25	34	57	5.2	76	82	17
12	170	41	19	62	76	13	83	85	19
13	80	42	9.1	112	71	21	83	112	25
14	50	40	5.4	168	61	28	93	120	30
15	42	36	4.1	155	82	34	821	469	1040
16	35	43	4.1	118	75	24	2670	2610	17900
17	25	44	3.0	163	65	29	2050	765	4230
18	20	37	2.0	465	180	338	1800	844	4160
19	17	36	1.7	901	607	2000	3380	721	6580
20	15	39	1.6	555	452	877	3320	639	5730
21	14	48	1.8	243	278	182	2320	290	1820
22	14	34	1.3	163	215	95	1490	248	998
23	14	58	2.2	125	86	29	1260	197	670
24	17	69	3.2	102	86	24	1180	66	210
25	17	69	3.2	83	83	19	2260	565	3450
26	22	56	3.3	83	83	19	2120	583	3340
27	27	57	4.2	175	85	40	2650	627	4490
28	30	57	4.6	261	109	77	1730	541	2530
29	41	54	6.0	175	102	48	1140	404	1240
30	66	49	8.7	---	---	---	383	198	205
31	73	82	16	---	---	---	199	146	78
TOTAL	2815	---	331.7	4589	---	3979.6	32255	---	58914

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05506500 MIDDLE FORK SALT RIVER AT PARIS, MO--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		APRIL			MAY			JUNE	
1	146	142	56	610	271	446	108	132	38
2	126	164	56	273	262	193	78	101	21
3	980	1930	6800	163	245	108	61	97	16
4	3160	1100	9390	731	350	691	50	119	16
5	3080	494	4110	976	350	922	51	189	26
6	2230	355	2140	390	332	350	53	207	30
7	547	586	865	155	210	88	48	229	30
8	1430	260	1000	118	157	50	38	281	29
9	2550	304	2090	93	149	37	2450	2370	18100
10	1920	270	1400	73	227	45	3030	858	7020
11	566	191	498	63	424	72	1030	669	1860
12	627	592	1000	55	96	14	568	686	1050
13	1020	566	1560	170	214	98	155	581	243
14	496	209	280	1400	1050	3970	83	226	51
15	307	131	109	676	543	991	139	160	60
16	301	122	99	194	604	316	2560	382	2640
17	327	87	77	95	455	117	4190	779	8820
18	188	65	33	67	289	52	1810	418	2040
19	137	65	24	57	342	53	228	364	224
20	106	122	35	1760	701	3330	100	164	44
21	985	540	1440	2890	386	3010	106	130	37
22	2480	645	4320	2360	333	2120	390	700	2020
23	2420	453	2960	1700	193	886	2500	1760	15500
24	2090	419	2360	614	175	290	1690	992	4530
25	1050	157	445	294	162	129	213	658	378
26	294	157	125	141	140	53	100	798	215
27	183	227	112	375	291	295	155	281	117
28	130	113	40	1470	1000	3970	920	1780	6130
29	234	393	248	1070	382	1100	712	1310	2520
30	817	332	732	386	211	229	208	563	316
31	---	---	---	168	140	64	---	---	---
TOTAL	31327	---	44404	19587	---	24080	23824	---	74121

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		JULY			AUGUST			SEPTEMBER	
1	85	616	141	3.4	30	.27	1.2	158	.51
2	57	1120	173	3.1	25	.21	1.0	77	.21
3	46	1200	149	2.8	28	.21	1.7	37	.17
4	503	450	611	2.8	29	.22	1.6	33	.14
5	288	464	361	3.1	19	.16	1.1	44	.13
6	106	396	113	11	12	.35	1.0	55	.15
7	52	191	27	7.4	20	.39	1.0	39	.10
8	37	132	13	5.9	41	.66	2.0	39	.21
9	30	134	11	4.8	48	.63	5.6	39	.58
10	25	340	23	3.8	54	.55	9.5	44	1.1
11	662	1000	3750	3.0	84	.68	11	50	1.5
12	181	770	376	2.7	89	.65	23	55	3.4
13	53	151	22	2.4	81	.52	26	61	4.3
14	30	106	8.6	2.2	87	.51	39	94	9.9
15	22	74	4.4	2.2	130	.77	34	127	12
16	17	78	3.6	2.2	178	1.1	21	88	5.0
17	14	109	4.1	2.2	159	.94	14	55	2.1
18	11	91	2.7	2.2	159	.95	10	66	1.8
19	8.2	57	1.3	2.1	170	.96	6.4	94	1.6
20	7.2	31	.60	2.9	159	1.3	4.7	66	.84
21	7.2	31	.61	1.8	94	.46	3.1	33	.28
22	7.1	30	.57	2.2	100	.59	3.4	22	.20
23	5.8	25	.40	2.5	216	1.5	4.6	22	.27
24	5.1	29	.39	2.6	239	1.7	3.4	33	.30
25	4.5	43	.53	2.8	227	1.7	3.0	39	.31
26	3.9	73	.77	3.5	201	1.9	2.0	39	.21
27	3.8	83	.86	3.4	215	2.0	1.8	44	.21
28	3.8	76	.78	2.5	171	1.1	1.8	50	.24
29	4.1	44	.49	2.2	92	.54	1.9	44	.23
30	4.5	86	1.1	2.2	155	.92	2.1	28	.16
31	3.8	49	.50	1.7	156	.72	---	---	---
TOTAL	2288.0	---	5802.30	99.4	---	25.16	241.9	---	48.15
YEAR	138015.73		229380.28						

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05506800 ELK FORK SALT RIVER NEAR MADISON, MO

LOCATION.--Lat 39°26'05", long 92°10'04", in SE¼NE¼SW¼ sec.29, T.54 N., R.11 W., Monroe County, Hydrologic Unit 07011006, on downstream side of highway, 25 ft to the left of bridge on State Highway AA, 500 ft downstream from Allen Creek, 3.5 mi southeast of Madison, and at mile 29.8.

DRAINAGE AREA.--200 mi^2.

PERIOD OF RECORD.--October 1968 to current year.

REVISED RECORDS.--WRD MO 1973: 1970(M).

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 690.16 ft National Geodetic Vertical Datum of 1929 (Missouri State Highway Commission bench mark).

REMARKS.--Records good. Several observations of water temperature and specific conductance made during the year.

AVERAGE DISCHARGE.--16 years, 175 ft^3/s, 11.88 in/yr, 126,800 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 42,300 ft^3/s Apr. 21, 1973, gage height, 33.4 ft, from floodmarks; no flow Aug. 4-10, 1976.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of July 9, 1967, reached a stage of 31.25 ft, from floodmark, discharge, 31,200 ft^3/s, by contracted-opening method. Flood in 1871 reached nearly the same stage, from information by local resident.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 3,000 ft^3/s (revised) and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)
Mar. 20	0200	*4,660	16.76
Apr. 4	1430	3,620	14.93
June 23	0545	3,620	14.95
July 11	0645	3,050	13.81

Minimum daily discharge, 0.22 ft^3/s Oct. 4-7, 11

DISCHARGE (CUBIC FEET/SECOND) WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.41	2.7	68	16	14	161	78	223	48	27	2.2	1.6
2	.48	54	47	15	15	156	88	104	39	23	2.1	1.4
3	.28	271	113	14	17	200	1460	101	29	19	1.9	1.2
4	.22	1240	771	15	17	221	3410	123	25	258	1.7	1.2
5	.22	276	454	34	15	334	1220	79	21	53	2.1	1.2
6	.22	64	256	271	11	152	276	57	23	23	1.9	1.1
7	.22	31	150	494	7.7	87	166	48	20	14	33	.99
8	.24	19	75	391	7.1	61	1980	40	14	12	7.6	1.6
9	.24	14	54	241	7.9	48	1880	32	1160	10	13	4.7
10	.24	119	43	126	11	42	434	25	1260	7.8	6.0	17
11	.22	293	1850	81	14	45	225	22	124	1590	5.1	248
12	.51	129	2140	39	37	51	598	20	58	281	3.6	153
13	.34	59	362	25	79	50	511	944	37	65	2.1	15
14	3.2	45	204	18	73	76	176	1200	26	29	2.1	12
15	2.7	43	142	15	45	1150	152	185	97	18	1.8	25
16	1.9	30	86	14	46	2100	158	90	332	12	1.8	20
17	1.5	19	52	12	101	565	118	56	111	9.4	1.8	8.2
18	1.1	13	18	9.7	376	770	95	45	46	7.4	1.7	7.1
19	1.9	24	13	8.5	509	3460	63	39	26	6.0	1.3	4.9
20	3.2	225	13	7.7	169	3090	48	1210	127	6.0	1.2	3.9
21	35	109	21	7.5	97	790	1710	1010	1840	5.1	1.2	3.4
22	227	59	21	7.9	65	1220	2190	176	807	3.7	1.2	4.9
23	108	1610	20	8.2	52	422	863	343	1370	4.1	1.2	5.4
24	41	657	10	9.0	42	396	276	152	674	4.3	1.2	5.2
25	17	148	11	9.9	33	1810	160	71	161	3.4	1.1	5.8
26	9.4	71	19	12	45	911	112	56	66	3.4	1.1	6.0
27	6.2	1260	19	15	263	1540	81	408	258	3.2	1.4	6.5
28	4.	2120	19	16	258	432	55	1140	181	2.9	1.5	6.0
29	2.	343	17	19	185	212	232	234	60	2.4	1.5	5.1
30	2.	136	15	18	---	136	794	112	36	2.1	1.5	5.1
31	3.	---	16	15	---	99	---	69	---	2.1	1.6	---
TOTAL	474.64	9483.7	7099	1984.4	2571.7	20787	19599	8414	9076	2507.3	108.5	582.49
MEAN	15.3	316	229	64.0	88.7	671	653	271	303	80.9	3.50	19.4
MAX	227	2120	2140	494	509	3460	3410	1210	1840	1590	33	248
MIN	.22	2.7	10	7.5	7.1	42	48	20	14	2.1	1.1	.99

CAL YR 1983 TOTAL 75970.74 MEAN 208 MAX 11400 MIN .15
WTR YR 1984 TOTAL 82687.73 MEAN 226 MAX 3460 MIN .22

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05506800 ELK FORK SALT RIVER NEAR MADISON, MO--Continued

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984
INSTANTANEOUS OBSERVATIONS AT 0800

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.03	3.25	4.59	3.65	3.64	5.13	4.52	5.49	4.13	3.77	3.07	3.02
2	3.05	4.95	4.29	3.65	3.63	5.09	4.39	4.75	4.00	3.66	3.07	3.01
3	3.02	5.88	4.11	3.61	3.68	5.17	9.23	4.55	3.84	3.61	3.04	2.98
4	2.99	9.85	8.35	3.61	3.70	5.17	14.51	4.89	3.75	7.38	3.03	2.98
5	2.99	5.86	6.68	3.80	3.69	6.38	10.17	4.54	3.69	4.24	3.08	2.98
6	2.99	4.54	5.81	5.16	3.56	5.12	5.81	4.30	3.63	3.70	3.04	2.96
7	2.99	4.06	5.23	6.64	3.44	4.64	5.14	4.21	3.69	3.49	3.89	2.96
8	2.99	3.81	4.66	6.33	3.42	4.38	9.30	4.11	3.51	3.43	3.33	2.95
9	3.00	3.67	4.39	5.65	3.44	4.22	12.53	3.98	7.29	3.43	3.50	3.06
10	3.00	4.08	4.18	4.92	3.53	4.12	6.58	3.87	11.58	3.39	3.30	3.55
11	2.99	6.06	10.93	4.62	3.60	4.15	5.53	3.83	4.96	13.24	3.23	5.77
12	3.06	5.12	13.18	4.08	3.93	4.20	6.63	3.78	4.28	4.89	3.15	5.88
13	3.02	4.44	6.28	3.88	4.38	4.22	6.99	4.03	3.97	4.00	3.06	3.73
14	3.35	4.24	5.46	3.71	4.54	4.20	5.26	10.71	3.78	3.84	3.06	3.55
15	3.27	4.21	5.06	3.63	4.19	7.31	5.07	5.24	3.74	3.64	3.04	3.79
16	3.20	4.03	4.62	3.61	4.05	12.29	5.14	4.65	6.55	3.46	3.03	3.87
17	3.16	3.82	4.26	3.57	4.55	6.58	4.87	4.27	4.87	3.42	3.03	3.54
18	3.10	3.67	3.97	3.51	5.09	8.78	4.60	4.07	4.12	3.31	3.03	3.53
19	3.13	3.61	2.34	3.47	7.39	15.57	4.37	3.96	3.79	3.27	3.00	3.36
20	3.20	5.88	2.64	3.46	5.26	16.00	4.20	9.55	3.65	3.21	2.98	3.29
21	3.84	4.97	3.78	3.43	4.72	7.26	9.64	9.67	13.76	3.23	2.98	3.20
22	5.86	4.34	3.56	3.45	4.42	10.40	12.41	5.23	7.50	3.16	2.98	3.32
23	4.96	10.21	3.75	3.46	4.27	6.79	8.75	5.96	12.43	3.18	2.98	3.39
24	4.23	7.88	2.44	3.49	4.12	5.63	5.80	5.12	7.94	3.19	2.98	3.37
25	3.79	5.22	2.66	3.50	3.99	11.23	5.17	4.42	5.24	3.14	2.97	3.42
26	3.56	4.60	3.70	3.56	3.91	7.18	4.82	4.23	4.40	3.14	2.97	3.43
27	3.46	6.61	3.72	3.66	5.43	11.54	4.56	4.01	6.99	3.13	3.00	3.44
28	3.38	12.70	3.73	3.65	5.72	6.54	4.29	10.48	5.34	3.11	3.01	3.44
29	3.24	6.23	3.69	3.74	5.29	5.47	4.89	5.60	4.37	3.10	3.01	3.36
30	3.17	5.13	3.63	3.74	---	5.00	8.41	4.81	4.00	3.08	3.01	3.35
31	3.29	---	3.63	3.66	---	4.70	---	4.38	---	3.06	3.01	---
MEAN	3.36	5.43	4.82	4.00	4.30	6.92	6.79	5.25	5.49	3.90	3.09	3.48
MAX	5.86	12.70	13.18	6.64	7.39	16.00	14.51	10.71	13.76	13.24	3.89	5.88
MIN	2.99	3.25	2.34	3.43	3.42	4.12	4.20	3.78	3.51	3.06	2.97	2.95

CAL YR 1983 MEAN 4.47 MAX 24.18 MIN 2.34
WTR YR 1984 MEAN 4.73 MAX 16.00 MIN 2.34

05507600 LICK CREEK AT PERRY, MO

LOCATION.--Lat 39°25'53", long 91°40'34", near center of NW¼SW¼ sec.27, T.54 N., R.7 W., Ralls County, Hydrologic Unit 07110007, on right bank and downstream side of State Highway 154 bridge, 0.1 mi west of Perry and at mile 11.9.

DRAINAGE AREA.--104 mi^2.

PERIOD OF RECORD.--October 1979 to current year. Prior to October 1979 gages were maintained and operated by Corps of Engineers.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 625.00 ft National Geodetic Vertical Datum of 1929. Prior to November 1967 nonrecording gage at same site and datum.

REMARKS.--Records good. Several observations of water temperature and specific conductance were made during the year.

EXTREMES FOR PERIOD OF RECORD.--Maximum stage 26.24 ft Oct. 12, 1969 determined by Corps of Engineers: no flow on many days each year.

EXTREMES FOR CURRENT YEAR.--Maximum discharge 3,950 ft^3/s Mar. 19 at 0700, gage height, 15.64 ft, no flow on many days.

DISCHARGE (CUBIC FEET/SECOND) WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.56	25	3.3	37	73	18	40	5.5	.94	.06	.00
2	.00	170	18	2.9	28	144	19	23	3.5	.74	.02	.00
3	.00	162	300	2.4	39	290	513	16	2.8	.65	.00	.00
4	.00	225	1080	2.9	38	335	780	14	2.3	40	.00	.00
5	.00	46	340	17	27	193	150	12	1.7	22	.00	.00
6	.00	18	192	138	20	59	55	11	1.4	8.1	.00	.00
7	.00	7.9	73	222	5.3	34	33	11	1.3	3.7	.00	.00
8	.00	7.1	38	198	2.6	27	837	12	57	2.1	.00	.00
9	.00	3.0	28	121	3.3	21	776	10	2210	2.9	.00	.00
10	.00	173	43	89	11	19	139	8.9	155	7.6	.00	.54
11	.00	109	1700	89	27	19	64	7.9	34	20	.00	4.4
12	.00	37	838	39	551	19	447	6.9	17	22	.00	2.6
13	.00	18	180	13	194	18	150	16	11	11	.00	7.3
14	.00	11	255	8.7	73	28	48	12	7.9	5.0	.00	4.3
15	.00	8.4	74	6.0	47	1130	33	7.3	6.4	2.6	.00	2.3
16	.00	6.0	43	4.5	132	960	27	7.2	5.7	1.3	.00	1.5
17	.00	3.7	27	3.3	320	528	23	6.0	5.2	.44	.00	.91
18	.00	2.7	14	2.3	892	371	18	5.0	3.5	.52	.00	.60
19	.14	3.0	8.8	1.8	373	2810	13	5.3	2.6	.44	.00	.40
20	.04	36	7.6	1.3	67	731	11	9.6	1.8	.40	.00	.28
21	288	39	7.6	1.1	37	253	2420	9.1	1.6	.40	.00	.17
22	1690	30	7.6	1.3	28	93	1580	6.8	26	.32	.01	.14
23	83	2350	7.4	1.7	19	48	294	9.0	21	.28	.00	1.2
24	27	310	5.9	2.1	17	308	84	10	13	.28	.00	.80
25	11	61	5.3	11	13	855	45	7.2	9.8	.28	.00	.50
26	3.0	31	5.3	55	17	410	30	8.2	4.7	.24	.00	.35
27	1.5	941	5.3	95	208	556	22	31	2.4	.20	.00	.25
28	.48	580	5.3	53	74	109	16	82	1.8	.16	.00	.20
29	.32	107	4.5	66	62	51	154	24	1.3	.12	.00	.14
30	.18	44	3.3	68	---	31	264	11	1.1	.10	.00	.13
31	.40	---	3.3	69	---	23	---	7.9	---	.06	.00	---
TOTAL	2105.06	5540.36	5345.2	1388.6	3362.2	10546	9063	447.3	2618.3	154.87	.09	29.01
MEAN	67.9	185	172	44.8	116	340	302	14.4	87.3	5.00	.00	.97
MAX	1690	2350	1700	222	892	2810	2420	82	2210	40	.06	7.3
MIN	.00	.56	3.3	1.1	2.6	18	11	5.0	1.1	.06	.00	.00

CAL YR 1983	TOTAL	30799.45	MEAN	84.4	MAX	4800	MIN	.00
WTR YR 1984	TOTAL	40599.99	MEAN	111	MAX	2810	MIN	.00

BEST COPY AVAILABLE

05507600 LICK CREEK AT PERRY, MO--Continued

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984
INSTANTANEOUS OBSERVATIONS AT 0800

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.79	5.18	5.84	5.44	6.22	6.28	5.73	6.03	5.37	5.09	4.87	4.70
2	4.78	6.30	5.74	5.43	5.83	6.62	5.69	5.77	5.30	5.07	4.85	4.70
3	4.77	6.52	5.70	5.42	5.97	7.63	8.70	5.68	5.26	5.03	4.84	4.70
4	4.76	7.18	10.23	5.41	5.99	7.06	9.67	5.64	5.23	5.11	4.83	4.71
5	4.76	6.14	7.70	5.55	5.79	7.05	6.81	5.58	5.19	5.80	4.83	4.71
6	4.74	5.75	7.06	6.50	5.86	6.21	6.16	5.57	5.14	5.48	4.82	4.71
7	4.74	5.57	6.32	7.01	5.49	5.95	5.91	5.57	5.13	5.31	4.81	4.71
8	4.73	5.47	5.98	7.00	5.43	5.83	7.61	5.61	5.13	5.20	4.81	4.71
9	4.71	5.36	5.87	6.65	5.41	5.74	9.52	5.53	13.22	5.16	4.91	4.82
10	4.71	6.91	5.78	6.49	5.56	5.73	6.74	5.48	6.76	5.47	4.80	4.79
11	4.71	6.61	12.19	6.64	5.81	5.72	6.23	5.46	5.95	5.51	4.78	5.39
12	4.83	6.00	9.53	6.21	8.94	5.73	7.68	5.43	5.70	5.81	4.77	5.15
13	4.82	5.74	6.82	5.68	7.03	5.72	6.78	5.62	5.54	5.57	4.77	5.49
14	4.82	5.62	7.45	5.57	6.31	5.69	6.09	5.60	5.46	5.36	4.77	5.33
15	4.82	5.57	6.33	5.51	6.06	7.94	5.92	5.44	5.39	5.26	4.77	5.24
16	4.82	5.52	6.10	5.47	5.95	10.17	5.85	5.43	5.37	5.15	4.77	5.18
17	4.82	5.44	5.97	5.46	7.70	6.74	5.80	5.38	5.35	5.08	4.77	5.11
18	4.81	5.38	5.71	5.40	6.91	7.60	5.72	5.34	5.29	5.04	4.76	5.06
19	4.84	5.35	5.60	5.39	7.73	15.46	5.66	5.31	5.24	5.01	4.76	5.01
20	5.03	5.95	5.56	5.36	6.26	8.51	5.62	5.49	5.19	5.00	4.75	4.98
21	5.32	6.03	5.56	5.35	5.97	7.46	15.02	5.50	5.17	5.00	4.74	4.94
22	14.05	5.78	5.56	5.37	5.86	6.47	10.65	5.41	5.18	4.98	4.86	4.92
23	6.39	14.72	5.56	5.39	5.78	6.10	7.42	5.38	5.76	4.97	4.80	---
24	5.87	7.42	5.52	5.38	5.72	6.00	6.40	5.53	5.66	4.97	4.78	---
25	5.61	6.23	5.49	5.52	5.64	9.88	6.06	5.42	5.55	4.97	4.76	---
26	5.43	5.93	5.48	6.12	5.61	6.63	5.89	5.39	5.36	4.95	4.74	---
27	5.30	5.91	5.48	6.55	7.63	8.70	5.79	5.74	5.22	4.94	4.74	---
	5.18	8.57	5.48	6.14	6.30	6.58	5.67	6.58	5.19	4.92	4.74	---
	5.13	6.59	5.48	6.26	6.19	6.13	5.68	5.82	5.15	4.91	4.72	---
30	5.09	6.06	5.45	6.28	---	5.91	7.39	5.59	5.12	4.89	4.70	---
31	5.14	---	5.44	6.53	---	5.80	---	5.46	---	4.87	4.70	---
MEAN	5.30	6.36	6.39	5.89	6.24	7.07	7.00	5.57	5.65	5.16	4.78	---
MAX	14.05	14.72	12.19	7.01	8.94	15.46	15.02	6.58	13.22	5.81	4.87	---
MIN	4.71	5.18	5.44	5.35	5.41	5.69	5.62	5.31	5.12	4.87	4.70	---

05507800 SALT RIVER NEAR CENTER, MO

LOCATION.--Lat 39°34'26", long 91°34'15", near SE corner, sec.4, T.55 N., R.6 W., Ralls County, Hydrologic Unit 07110007, on left bank at left downstream end of bridge on highway A, 5 mi northwest of Center, at mile 53.1.

DRAINAGE AREA.--2,350 mi², approximately.

PERIOD OF RECORD.--October 1979 to current year. Prior to October 1979, gage heights only by St. Louis District Corps of Engineers.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 500.00 ft National Geodetic Vertical Datum of 1929. Prior to Oct. 1979 nonrecording gage at same site and datum.

REMARKS.--Records fair. Several observations of water temperature and specific conductance were made during the year. Flow regulated by Clarence Cannon Dam since September 1979.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge not determined, Apr. 22, 1973, gage height, 33.00 ft; minimum gage height, 2.6 ft April 27, 1963 determined by Corps of Engineers.

EXTREMES FOR CURRENT YEAR.--Maximum discharge 14,100 ft³/s Apr. 9, gage height, 16.20 ft; minimum daily discharge 13.0 ft³/s Oct. 15 and 16.

DISCHARGE (CUBIC FEET/SECOND) WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	30	80	153	116	1140	1630	11400	2060	6130	5130	60	116
2	28	463	150	118	2780	1940	11900	2180	5020	5140	60	114
3	24	211	191	120	3180	3620	12300	2100	5770	4430	347	116
4	22	267	330	122	537	3790	11600	1940	5960	5060	53	73
5	22	115	220	125	100	3840	12900	1990	6310	5180	49	40
6	22	108	182	250	50	3270	12700	1950	5790	5140	51	42
7	20	105	155	190	46	3320	12900	1960	4260	4430	60	48
8	18	103	148	140	42	2560	12700	2050	1740	3470	51	51
9	20	103	148	110	42	2670	12700	2200	1400	3680	456	49
10	18	387	166	88	55	2350	8370	2000	4980	4320	282	106
11	14	113	956	66	57	2340	6450	2100	5100	4290	131	452
12	22	51	315	70	100	1930	6580	1560	5060	4830	57	596
13	20	55	194	90	225	1320	7220	1650	3460	5310	35	645
14	14	55	232	80	214	459	7290	1160	3680	4190	26	803
15	13	57	163	56	51	778	7300	1160	3030	2980	49	1890
16	13	59	123	48	46	3930	7490	1720	3340	2120	78	3850
17	14	66	93	46	46	5900	7330	1730	3920	744	66	3620
18	14	78	90	48	55	6030	7050	1940	4260	386	60	591
19	16	103	95	50	46	6160	6700	1820	4140	200	87	124
20	20	118	95	52	46	6190	4880	2200	4440	162	444	1180
21	42	118	85	56	293	5750	3050	1940	3720	146	1060	3820
22	73	125	93	70	1070	6080	2860	2080	3180	141	966	3870
23	55	709	99	243	1630	8870	2380	2130	4930	194	833	4360
24	55	203	85	140	2320	11800	1990	2140	5050	49	487	5000
25	57	154	113	106	1660	10200	2030	2280	5180	49	75	5170
26	53	147	118	143	1610	11100	2040	4820	5100	53	129	5390
27	51	641	115	384	1630	13100	1990	4400	5080	57	452	5480
28	51	328	105	292	1550	12200	2030	4180	5090	55	289	4850
29	51	183	100	73	1650	12300	2050	3060	5070	55	140	2850
30	51	159	110	76	---	12100	2030	2490	5100	55	27	739
31	51	---	113	768	---	11700	---	5250	---	57	41	---
TOTAL	974	5464	5335	4336	22271	179227	210210	72240	135290	72103	7001	56035
MEAN	31.4	182	172	140	768	5782	7007	2330	4510	2326	226	1868
MAX	73	709	956	768	3180	13100	12900	5250	6310	5310	1060	5480
MIN	13	51	85	46	42	459	1990	1160	1400	49	26	40

CAL YR 1983 TOTAL 589347 MEAN 1615 MAX 27200 MIN 13

WTR YR 1984 TOTAL 770486 MEAN 2105 MAX 13100 MIN 13

05507800 SALT RIVER NEAR CENTER, MO--Continued

GAGE HEIGHT (DATUM ABOVE GAGE), WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984
INSTANTANEOUS OBSERVATIONS AT 0800

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.34	3.52	3.70	---	5.60	6.85	14.59	7.03	11.29	9.68	3.33	3.61
2	3.32	5.73	3.68	---	6.44	6.82	14.45	7.14	5.67	9.94	3.32	3.58
3	3.29	3.60	3.68	---	10.65	9.14	15.49	7.22	8.48	7.84	3.33	3.60
4	3.26	4.34	4.36	---	6.36	9.33	14.25	6.91	8.49	9.48	3.31	3.60
5	3.26	3.55	3.96	---	3.50	9.37	15.62	7.01	8.99	9.65	3.28	3.21
6	3.26	3.51	3.81	---	---	9.39	15.41	6.94	7.95	9.70	3.29	3.25
7	3.26	3.50	---	---	---	8.86	15.22	6.94	8.91	9.61	3.36	3.26
8	3.24	3.50	---	---	3.41	8.79	15.23	6.98	7.32	8.45	3.29	3.26
9	3.25	3.48	---	---	3.33	7.91	16.08	7.24	6.50	8.67	3.29	3.31
10	3.23	3.92	---	---	3.41	7.80	13.21	6.88	10.05	8.88	4.45	3.25
11	3.22	3.64	---	---	3.41	7.77	10.84	6.92	10.17	9.79	3.72	4.19
12	3.26	3.44	---	---	3.48	7.63	11.54	5.94	10.21	9.00	3.32	5.05
13	3.26	3.46	---	---	3.87	6.91	11.82	6.43	8.36	10.01	3.27	4.96
14	3.21	3.46	4.03	---	4.34	5.44	11.82	6.40	8.62	9.38	3.10	5.48
15	3.19	3.47	3.89	---	3.42	3.54	11.86	5.93	8.55	8.35	3.19	5.34
16	3.17	3.47	3.72	---	3.38	8.61	11.99	7.49	8.34	7.42	3.43	8.33
17	3.20	3.50	---	---	3.38	10.94	11.94	7.01	9.04	5.96	3.40	9.82
18	3.19	3.54	---	---	3.42	11.39	11.73	7.94	9.15	4.78	3.33	5.44
19	3.19	3.59	---	---	3.38	11.70	11.78	7.92	9.11	4.00	3.45	3.48
20	3.25	3.65	---	---	3.38	11.52	10.96	8.28	9.27	3.85	3.47	5.65
21	3.33	3.62	---	---	3.45	11.39	9.42	7.39	9.29	3.74	5.74	9.08
22	3.57	3.61	---	---	5.35	11.22	8.19	8.13	8.35	3.70	5.79	9.43
23	3.48	6.15	---	---	6.59	12.37	7.60	8.26	9.46	3.70	5.55	9.17
24	3.48	3.91	---	3.65	7.51	14.75	7.01	7.68	9.73	3.27	5.30	10.15
25	3.50	3.71	---	3.66	6.89	13.82	7.09	8.51	9.72	3.25	3.43	10.20
26	3.50	3.68	---	3.66	6.82	13.49	7.13	9.14	9.70	3.29	3.40	10.36
27	3.52	3.73	---	4.45	6.83	15.73	7.05	8.35	9.66	3.32	4.68	10.46
28	3.52	4.32	---	4.61	6.79	15.10	7.11	8.03	9.65	3.31	4.24	10.55
29	3.52	3.82	---	3.63	6.81	15.10	7.10	7.46	9.64	3.31	4.19	11.42
30	3.52	3.73	---	3.64	---	15.21	7.21	7.02	9.69	3.31	2.87	6.46
31	3.52	---	---	3.64	---	14.76	---	10.02	---	3.31	2.82	---
MEAN	3.33	3.80	---	---	---	10.41	11.36	7.44	8.98	6.51	3.74	6.30
MAX	3.57	6.15	---	---	---	15.73	16.08	10.02	11.29	10.01	5.79	11.42
MIN	3.17	3.44	---	---	---	3.54	7.01	5.93	5.67	3.25	2.82	3.21

05508000 SALT RIVER NEAR NEW LONDON, MO

LOCATION.--Lat 39°36'44", long 91°24'30", in NE¼NW¼ sec.36, T.56 N., R.5 W., Ralls County, Hydrologic Unit 07110007, on left bank 180 ft upstream from upstream bridge on dual U.S. Highway 61, 2.0 mi north of New London, 8.0 mi upstream from Spencer Creek and at mile 35.5.

DRAINAGE AREA.--2,480 mi², approximately.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--February 1922 to current year.

GAGE.--Water-stage recorder. Datum of gage is 477.03 ft National Geodetic Vertical Datum of 1929. Prior to Apr. 7, 1931, nonrecording gage at present site at datum 0.03 ft higher. Apr. 7, 1931, to Jan. 17, 1935, nonrecording gage at site 180 ft downstream at datum 0.04 ft lower.

REMARKS.--Records good. Flow regulated by Clarence Cannon Dam since September 1979.

AVERAGE DISCHARGE.--62 years, 1,700 ft³/s, 9.31 in/yr, 1,232,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 107,000 ft³/s Apr. 22, 1973, gage height 31.8 ft, from floodmark; no flow Aug. 3-14, 1934, Aug. 21 to Sept. 1, 1936.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of July 14, 1858, reached a stage of 27.6 ft, present site and datum, based on comparison of June 1928 flood crest at stone marker 1.0 mi downstream of gage.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 15,100 ft³/s Apr. 9, gage height, 15.49 ft, no other peak above base of 2,000 ft³/s; minimum daily, 17 ft³/s Oct. 18.

DISCHARGE (CUBIC FEET/SECOND) WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	28	49	211	185	1070	1540	12000	1980	6130	5150	74	52
2	28	2250	196	186	2330	1540	12200	2090	5060	5300	75	125
3	25	700	299	186	3880	2280	13500	2090	5800	4300	209	127
4	24	801	821	186	1080	4140	12100	1840	5880	5070	296	127
5	22	259	536	201	150	3120	13700	1880	6480	5200	78	86
6	22	148	355	351	77	2880	13400	1850	5550	5180	72	65
7	22	129	240	276	74	3390	13400	1830	5560	4910	134	66
8	20	110	190	198	71	3040	14100	1840	2180	3520	111	76
9	20	101	172	145	71	2870	14600	2090	2810	3650	167	81
10	19	374	185	102	75	2390	10000	1860	4400	3920	579	89
11	19	339	2980	85	78	2260	6830	1960	5170	4740	190	867
12	26	172	1120	118	234	1960	7040	1580	5220	4430	122	642
13	22	139	652	155	328	1270	7370	1620	3810	5430	78	608
14	21	114	481	102	352	1150	7490	1350	3700	4560	63	816
15	18	98	531	76	213	1220	7670	1220	3400	3430	53	1130
16	18	93	593	73	117	4590	7580	1500	3250	2580	74	3420
17	18	91	481	73	292	7600	7600	1660	3920	1200	93	3890
18	17	92	421	75	822	7000	7180	1900	4220	546	82	1250
19	20	106	238	73	468	7600	7200	1870	4190	284	79	222
20	24	157	170	83	219	7700	7180	2870	4420	196	99	565
21	103	147	183	92	159	7250	4990	2040	4100	165	1040	3070
22	380	144	154	118	846	7180	3930	2080	3160	154	1080	3730
23	60	2280	158	131	1460	9480	2510	2070	4480	184	903	3750
24	50	635	163	229	2100	13200	1730	2070	5070	165	761	4690
25	49	277	145	154	1790	10700	1790	2150	5110	74	212	4830
26	49	205	176	135	1560	11800	1790	4000	5150	69	98	5070
27	49	2110	186	219	1580	14900	1700	4510	5100	71	310	5210
28	48	1300	188	485	1500	13200	1660	4320	5110	72	406	5050
29	48	419	170	210	1510	12900	1690	3490	5100	72	298	3200
30	47	261	165	98	---	12900	2500	2270	5130	72	102	1250
31	47	---	180	268	---	12300	---	4780	---	73	39	---
TOTAL	1363	14100	12740	5068	24536	195350	226430	70660	138660	74767	7977	54154
MEAN	44.0	470	411	163	845	6302	7548	2279	4622	2412	257	1805
MAX	380	2280	2980	485	3880	14900	14600	4780	6480	5430	1080	5210
MIN	17	49	145	73	71	1150	1660	1220	2180	69	39	52

CAL YR 1983	TOTAL	629962	MEAN	1726	MAX	27300	MIN	17
WTR YR 1984	TOTAL	825775	MEAN	2256	MAX	14900	MIN	17

05508000 SALT RIVER NEAR NEW LONDON, MO--Continued

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984
INSTANTANEOUS OBSERVATIONS AT 0800

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.19	2.41	3.02	2.91	4.75	5.65	13.79	6.34	10.09	9.40	2.39	1.96
2	2.18	9.30	2.97	2.92	5.61	5.63	13.65	6.50	8.73	9.42	2.40	2.67
3	2.15	3.59	2.94	2.92	8.90	6.48	14.78	6.54	9.34	8.97	2.40	2.69
4	2.13	4.68	4.65	2.92	5.29	8.28	13.54	6.19	9.28	9.41	3.22	2.69
5	2.13	3.21	3.96	2.95	2.83	7.32	14.83	6.22	9.80	9.48	2.43	2.51
6	2.13	2.82	3.45	3.35	2.49	7.09	14.59	6.17	8.11	9.51	2.37	2.32
7	2.13	2.75	3.17	3.31	2.52	7.59	14.35	6.18	10.24	9.47	2.37	2.32
8	2.11	2.68	2.95	3.10	2.50	7.24	14.60	6.19	6.82	7.84	2.64	2.37
9	2.11	2.62	2.88	2.93	2.50	7.07	15.41	6.52	9.32	7.96	2.38	2.44
10	2.10	3.45	2.84	2.74	2.51	6.59	12.58	6.23	8.87	8.01	3.91	2.39
11	2.09	3.47	8.32	2.64	2.53	6.46	10.34	6.27	9.13	9.62	2.93	4.96
12	2.19	2.91	4.95	2.74	2.73	6.16	10.50	6.03	9.15	8.38	2.72	3.99
13	2.16	2.78	4.10	3.02	3.39	5.27	10.74	5.90	7.89	9.50	2.43	3.92
14	2.13	2.72	3.72	2.81	3.39	5.10	10.84	5.84	7.95	8.76	2.32	4.41
15	2.10	2.63	3.84	2.60	3.11	5.20	10.98	6.45	8.01	7.64	2.19	4.22
16	2.09	2.60	3.95	2.58	2.66	8.66	10.92	6.93	7.66	6.57	2.29	7.36
17	2.09	2.59	3.72	2.57	3.32	10.86	10.95	7.27	8.12	5.09	2.52	8.41
18	2.09	2.59	3.58	2.61	3.11	10.43	10.66	7.78	8.30	3.81	2.45	5.41
19	2.08	2.61	3.10	2.54	3.90	10.86	10.68	7.78	8.58	3.18	2.39	3.06
20	2.16	2.84	2.87	2.62	3.06	10.93	10.70	8.92	8.63	2.95	2.53	3.01
21	2.25	2.82	2.91	2.70	2.85	10.61	9.12	7.82	8.62	2.85	4.94	7.30
22	3.72	2.73	2.83	2.84	4.27	10.56	8.25	8.25	7.57	2.79	4.88	7.98
23	2.57	7.53	2.81	2.92	5.36	12.19	6.86	8.31	8.70	2.79	4.53	7.62
24	2.44	4.22	2.84	3.49	5.95	14.45	6.08	8.30	9.30	2.87	4.29	8.78
25	2.43	3.25	2.76	3.13	5.84	13.00	6.16	8.38	9.25	2.39	3.00	8.86
26	2.43	3.01	2.86	2.99	5.59	13.60	6.17	8.66	9.39	2.35	2.55	9.04
27	2.43	3.15	2.92	3.09	5.64	15.39	6.07	8.52	9.37	2.36	2.83	9.13
28	2.42	5.36	2.94	4.00	5.57	14.45	6.03	8.45	9.36	2.36	3.49	9.24
29	2.42	3.65	2.90	3.29	5.55	14.31	6.08	8.38	9.38	2.37	3.22	7.79
30	2.42	3.20	2.82	2.74	---	14.42	7.07	7.15	9.39	2.37	2.62	5.41
31	2.41	---	2.90	2.63	---	13.95	---	8.66	---	2.37	2.11	---
MEAN	2.27	3.47	3.43	2.92	4.06	9.54	10.58	7.20	8.81	5.90	2.89	5.14
MAX	3.72	9.30	8.32	4.00	8.90	15.39	15.41	8.92	10.24	9.62	4.94	9.24
MIN	2.08	2.41	2.76	2.54	2.49	5.10	6.03	5.84	6.82	2.35	2.11	1.96

CAL YR 1983 MEAN 4.39 MAX 21.43 MIN 2.01
WTR YR 1984 MEAN 5.51 MAX 15.41 MIN 1.96

05508000 SALT RIVER NEAR NEW LONDON, MO--Continued
(National stream-quality accounting network station)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--August 1967 to July 1975, July 1977 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: March 1979 to September 1981.
WATER TEMPERATURE: March 1979 to September 1981.
SUSPENDED-SEDIMENT: July 1980 to current year.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum daily, 733 micromhos January 12, 1981; minimum daily, 86 micromhos December 3, 1979.
WATER TEMPERATURE: Maximum daily, 36.0°C July 18, 19, 21, August 23, 24, 1980; minimum daily, 0.0°C March 1, 1980.
SUSPENDED-SEDIMENT CONCENTRATIONS: Maximum daily mean, 4,380 mg/L December 2, 1982; minimum daily mean, 7 mg/L October 15, 1983.
SUSPENDED-SEDIMENT LOADS: Maximum daily, 143,000 tons May 18, 1981; minimum daily, 0.33 tons October 15, 1983.

EXTREMES FOR CURRENT YEAR.--
SUSPENDED-SEDIMENT CONCENTRATIONS: Maximum daily mean, 1,370 mg/L September 11; minimum daily mean, 7 mg/L October 15.
SUSPENDED-SEDIMENT LOADS: Maximum daily, 21,500 tons March 24; minimum daily, 0.33 tons October 15.

WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS) (00061)	SPECIFIC CONDUCTANCE (UMHOS) (00095)	PH (STANDARD UNITS) (00400)	TEMPERATURE (DEG C) (00010)	TURBIDITY (NTU) (00076)	OXYGEN, DISSOLVED (MG/L) (00300)	OXYGEN, DISSOLVED (PERCENT SATURATION) (00301)	COLIFORM, FECAL, 0.7 UM-MF (COLS./100 ML) (31625)	STREPTOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)
OCT										
18...	1445	17	472	8.2	16.0	.50	8.3	82	K40	--
NOV										
15...	1515	91	390	7.5	8.5	25	9.4	79	820	2400
DEC										
20...	1515	186	379	7.2	.0	20	11.2	78	--	--
JAN										
10...	1445	102	330	7.7	1.0	25	10.6	74	300	1600
FEB										
22...	1615	912	265	7.6	8.0	130	11.0	92	500	8600
MAR										
13...	1315	1460	221	7.7	3.0	33	13.2	99	200	K10
APR										
10...	1445	8250	233	7.5	7.5	110	12.0	98	K30	K70
MAY										
15...	1400	1220	205	7.4	16.0	90	9.0	88	98	290
JUN										
12...	1440	5220	200	7.4	20.5	50	5.0	54	240	150
JUL										
12...	0830	4910	185	7.1	23.0	70	5.2	59	K200	290
AUG										
07...	1500	198	262	8.3	29.5	9.1	5.8	75	58	74
SEP										
04...	1515	133	241	8.2	23.0	11	11.1	126	K22	K28

DATE	HARDNESS (MG/L AS CACO3) (00900)	HARDNESS, NONCARBONATE (MG/L CACO3) (00902)	CALCIUM DISSOLVED (MG/L AS CA) (00915)	MAGNESIUM, DISSOLVED (MG/L AS MG) (00925)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	PERCENT SODIUM (00932)	SODIUM ADSORPTION RATIO (00931)	POTASSIUM, DISSOLVED (MG/L AS K) (00935)	ALKALINITY FIELD (MG/L AS CACO3) (00410)	SULFATE DISSOLVED (MG/L AS SO4) (00945)
OCT										
18...	200	25	60	12	26	22	.8	3.8	175	46
NOV										
15...	160	24	51	8.3	12	14	.4	4.1	138	35
DEC										
20...	150	16	49	7.7	9.8	12	.4	4.3	138	36
JAN										
10...	140	25	43	7.2	10	13	[illegible]	3.4	112	33
FEB										
22...	120	24	36	6.7	6.4	10	.3	4.3	94	25
MAR										
13...	83	24	25	4.9	5.9	13	.3	4.6	59	30
APR										
10...	80	27	24	4.9	5.8	13	.3	3.2	53	29
MAY										
15...	95	33	29	5.4	5.9	11	.3	3.5	62	27
JUN										
12...	79	23	24	4.7	5.5	13	.3	3.3	56	29
JUL										
12...	77	27	24	4.0	4.6	11	.2	3.6	50	24
AUG										
07...	110	29	34	5.6	11	17	.5	3.9	79	24
SEP										
04...	99	26	31	5.3	8.4	15	.4	4.1	73	22

K--Results based on colony count outside the acceptable range (non-ideal colony count).

05508000 SALT RIVER NEAR NEW LONDON, MO--Continued

DATE	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)	FLUORIDE, DISSOLVED (MG/L AS F) (00950)	SILICA, DISSOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTITUENTS DISSOLVED (MG/L) (70301)	SOLIDS, DISSOLVED (TONS PER AC-FT) (70303)	SOLIDS, DISSOLVED (TONS PER DAY) (70302)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N) (00631)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N) (00608)
OCT 18...	30	.30	2.0	288	290	.39	13	<.10	.050
NOV 15...	16	.20	8.2	227	220	.31	56	1.1	.110
DEC 20...	12	<.10	9.1	243	210	.33	118	1.5	<.010
JAN 10...	13	.20	8.2	200	190	.27	55	1.7	.080
FEB 22...	8.1	.20	8.6	162	150	.22	399	1.4	.120
MAR 13...	7.0	.20	8.4	143	120	.19	564	1.1	.030
APR 10...	6.2	.20	7.4	127	110	.17	2830	1.7	.110
MAY 15...	5.7	.20	8.8	116	120	.16	382	1.4	.050
JUN 12...	4.9	.20	7.6	129	110	.18	1820	1.2	.040
JUL 12...	4.6	.20	6.7	118	100	.16	1560	1.0	.100
AUG 07...	11	.20	6.0	170	140	.23	91	.17	<.010
SEP 04...	10	.20	6.6	147	130	.20	53	<.10	.020

DATE	NITROGEN, AMMONIA DISSOLVED (MG/L AS NH4) (71846)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N) (00625)	PHOSPHORUS, TOTAL (MG/L AS P) (00665)	PHOSPHORUS TOTAL (MG/L AS PO4) (71886)	PHOSPHORUS, DISSOLVED (MG/L AS P) (00666)	PHOSPHORUS, ORTHO, DISSOLVED (MG/L AS P) (00671)	SEDIMENT, SUSPENDED (MG/L) (80154)	SEDIMENT, DISCHARGE, SUSPENDED (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. %FINER THAN .062 MM (70331)
OCT 18...	.06	1.8	.070	.21	.020	.030	34	1.6	89
NOV 15...	.14	1.4	.110	.34	.030	.020	102	25	82
DEC 20...	--	.70	.120	.37	.110	.080	74	36	85
JAN 10...	.10	.80	.090	.28	.030	.030	60	17	81
FEB 22...	.15	1.4	.200	.61	.090	.100	642	1580	95
MAR 13...	.04	.70	.120	.37	.080	.050	33	130	78
APR 10...	.14	1.4	.150	.46	.050	.040	--	-	--
MAY 15...	.06	2.0	.160	.49	.150	.060	96	316	90
JUN 12...	.05	.70	.110	--	.050	.030	224	3160	84
JUL 12...	.13	.90	.130	--	.050	.140	77	1020	73
AUG 07...	--	1.2	.070	--	.020	<.010	--	--	--
SEP 04...	.03	1.3	.070	--	.010	.010	--	--	--

DATE	ALUMINUM, DISSOLVED (UG/L AS AL) (01106)	ARSENIC DISSOLVED (UG/L AS AS) (01000)	BARIUM, DISSOLVED (UG/L AS BA) (01005)	BERYLLIUM, DISSOLVED (UG/L AS BE) (01010)	CADMIUM DISSOLVED (UG/L AS CD) (01025)	CHROMIUM, DISSOLVED (UG/L AS CR) (01030)	COBALT, DISSOLVED (UG/L AS CO) (01035)	COPPER, DISSOLVED (UG/L AS CU) (01040)	IRON, DISSOLVED (UG/L AS FE) (01046)	LEAD, DISSOLVED (UG/L AS PB) (01049)
NOV 15...	<10	1	88	<.5	2	<1	<3	1	24	1
JAN 10...	110	<1	62	<.5	<1	<1	<3	7	150	<1
MAY 15...	450	<1	70	<1.0	1	<1	<3	6	440	4
JUL 12...	190	<1	61	1.0	<1	<1	<3	4	110	8

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05508000 SALT RIVER NEAR NEW LONDON, MO--Continued

DATE	LITHIUM DIS-SOLVED (UG/L AS LI) (01130)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	MERCURY DIS-SOLVED (UG/L AS HG) (71890)	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO) (01060)	NICKEL, DIS-SOLVED (UG/L AS NI) (01065)	SELE-NIUM, DIS-SOLVED (UG/L AS SE) (01145)	SILVER, DIS-SOLVED (UG/L AS AG) (01075)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)	VANA-DIUM, DIS-SOLVED (UG/L AS V) (01085)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)
NOV 15...	23	270	<.1	<10	1	<1	<1	120	<6	30
JAN 10...	9	170	<.1	<10	1	1	<1	97	<6	15
MAY 15...	5	77	<.1	<10	2	<1	<1	78	<6	23
JUL 12...	6	17	<.1	<10	<1	<1	<1	70	<6	19

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT

DATE	STREAM-FLOW, INSTAN-TANEOUS (CFS) (00061)	SED. SUSP. FALL DIAM. % FINER THAN .002 MM (70337)	SED. SUSP. FALL DIAM. % FINER THAN .004 MM (70338)	SED. SUSP. FALL DIAM. % FINER THAN .016 MM (70340)	SED. SUSP. FALL DIAM. % FINER THAN .062 MM (70342)	SED. SUSP. FALL DIAM. % FINER THAN .125 MM (70343)	SED. SUSP. FALL DIAM. % FINER THAN .250 MM (70344)	SED. SUSP. FALL DIAM. % FINER THAN .500 MM (70345)	SED. SUSP. FALL DIAM. % FINER THAN 1.00 MM (70346)
FEB , 1984 22...	827	79	86	95	100	--	--	--	--
APR 10...	8210	60	63	69	84	86	93	100	100
JUN 12...	4590	52	54	62	91	100	--	--	--

PARTICLE-SIZE DISTRIBUTION OF SURFACE BED MATERIAL

DATE	BED MAT. SIEVE DIAM. % FINER THAN .062 MM (80164)	BED MAT. SIEVE DIAM. % FINER THAN .125 MM (80165)	BED MAT. SIEVE DIAM. % FINER THAN .250 MM (80166)	BED MAT. SIEVE DIAM. % FINER THAN .500 MM (80167)	BED MAT. SIEVE DIAM. % FINER THAN 1.00 MM (80168)	BED MAT. SIEVE DIAM. % FINER THAN 2.00 MM (80169)	BED MAT. SIEVE DIAM. % FINER THAN 4.00 MM (80170)	BED MAT. SIEVE DIAM. % FINER THAN 8.00 MM (80171)	BED MAT. SIEVE DIAM. % FINER THAN 16.0 MM (80172)	BED MAT. SIEVE DIAM. % FINER THAN 32.0 MM (80173)
OCT , 1983 18...	0	0	2	5	7	11	18	34	72	100
APR , 1984 10...	0	2	44	70	79	82	83	87	91	100
AUG 07...	0	0	2	9	18	23	30	43	70	100

05508000 SALT RIVER NEAR NEW LONDON, MO--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		OCTOBER			NOVEMBER			DECEMBER	
1	28	26	2.0	49	58	7.7	211	69	39
2	28	29	2.2	2250	244	4530	196	78	41
3	25	27	1.8	700	180	340	299	90	73
4	24	23	1.5	801	111	239	821	123	272
5	22	21	1.3	259	88	62	536	103	149
6	22	19	1.1	148	83	33	355	70	67
7	22	15	.90	129	83	29	240	61	40
8	20	15	.79	110	77	23	190	52	27
9	20	17	.93	101	71	19	172	41	19
10	19	17	.90	374	73	74	185	129	64
11	19	16	.30	339	72	66	2980	608	7500
12	26	15	1.1	172	58	27	1120	108	328
13	22	15	.91	139	50	19	652	78	138
14	21	10	.59	114	62	19	481	77	101
15	18	7	.33	98	63	17	531	63	91
16	18	9	.44	93	67	17	593	43	69
17	18	22	1.1	91	72	18	481	33	43
18	17	22	1.0	92	76	19	421	32	37
19	20	24	1.3	106	71	20	238	34	22
20	24	24	1.5	157	79	33	170	35	16
21	103	28	7.9	147	84	33	183	37	18
22	380	48	49	144	98	38	154	33	14
23	60	52	8.4	2280	674	8030	158	31	13
24	50	61	8.3	635	364	624	163	28	12
25	49	65	8.6	277	293	219	145	21	8.1
26	49	50	6.6	205	77	42	176	18	8.7
27	49	49	6.5	2110	94	537	186	17	8.3
28	48	49	6.4	1300	167	567	188	17	8.5
29	48	46	5.9	419	111	125	170	18	8.1
30	47	48	6.1	261	72	50	165	18	7.9
31	47	49	6.3	---	---	---	180	16	7.8
TOTAL	1363	---	142.49	14100	---	15896.7	12740	---	9250.4

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		JANUARY			FEBRUARY			MARCH	
1	185	18	8.9	1070	92	265	1540	131	545
2	186	18	9.0	2330	354	2220	1540	136	565
3	186	18	9.0	3880	860	9010	2280	109	671
4	186	17	8.6	1080	151	442	4140	110	1230
5	201	15	8.4	150	104	42	3120	121	1020
6	351	14	13	77	114	24	2880	110	855
7	276	16	12	74	116	23	3390	143	1310
8	198	20	11	71	121	23	3040	110	903
9	145	17	6.8	71	112	22	2870	44	341
10	102	16	4.3	75	123	25	2390	29	187
11	85	---	---	78	120	25	2260	25	153
12	118	---	---	234	130	82	1960	20	106
13	155	---	---	328	172	153	1270	27	93
14	102	---	---	352	152	145	1150	24	75
15	76	32	6.6	213	114	65	1220	80	264
16	73	---	---	117	114	36	4590	581	7200
17	73	---	---	292	376	297	7600	705	14500
18	75	---	---	822	1010	2240	7000	430	8130
19	73	---	---	468	488	616	7600	121	2480
20	83	---	---	219	181	107	7700	279	5800
21	92	---	---	159	135	58	7250	256	5010
22	118	---	---	846	178	407	7180	438	8490
23	131	---	---	1460	205	808	9480	443	11300
24	229	---	---	2100	313	1770	13200	604	21500
25	154	---	---	1790	254	1230	10700	381	11000
26	135	---	---	1560	153	644	11800	248	7900
27	219	---	---	1580	104	444	14900	333	13400
28	485	---	---	1500	120	486	13200	213	7590
29	210	---	---	1510	120	489	12900	190	6620
30	98	90	24	---	---	---	12900	196	6830
31	268	92	66	---	---	---	12300	145	4820
TOTAL	5068	---	187.6	24506	---	22198	195350	---	150888

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05508000 SALT RIVER NEAR NEW LONDON, MO--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS DAY), WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		APRIL			MAY			JUNE	
1	12000	163	5280	1980	106	567	6130	159	2630
2	12200	156	5140	2090	86	485	5060	137	1870
3	13500	182	6630	2090	80	451	5800	226	3540
4	12100	145	4740	1840	64	318	5880	172	2730
5	13700	213	7880	1880	59	299	6480	130	2270
6	13460	157	5680	1850	58	290	5550	48	719
7	13400	123	4450	1830	51	252	5560	36	540
8	14100	79	3010	1840	48	238	2180	53	312
9	14600	150	5910	2090	67	378	2810	138	1050
10	10000	118	3190	1860	40	201	4400	181	2150
11	6830	114	2100	1960	69	365	5170	170	2370
12	7040	116	2200	1580	47	201	5220	75	1060
13	7370	127	2530	1620	53	232	3810	102	1050
14	7490	100	2020	1350	80	292	3700	87	869
15	7670	88	1820	1220	133	438	3400	135	1240
16	7580	96	1960	1500	172	697	3250	166	1460
17	7600	87	1790	1660	182	816	3920	142	1500
18	7180	81	1570	1900	255	1310	4220	121	1380
19	7200	83	1610	1870	247	1250	4190	147	1660
20	7180	80	1550	2870	211	1640	4420	84	1000
21	4990	77	1040	2040	348	1920	4100	89	985
22	3930	76	806	2080	272	1530	3160	87	742
23	2510	76	515	2070	217	1210	4480	79	956
24	1730	75	350	2070	231	1290	5070	70	958
25	1790	65	314	2150	223	1290	5110	83	1150
26	1790	64	309	4000	200	2160	5150	91	1270
27	1700	55	243	4510	72	877	5100	83	1140
28	1660	48	215	4320	64	747	5110	73	1010
29	1690	141	643	3490	56	528	5100	81	1120
30	2500	321	2170	2270	59	362	5130	83	1150
31	---	---	---	4780	99	1280	---	---	---
TOTAL	226430	---	77665	70660	---	23914	138660	---	41881
		JULY			AUGUST			SEPTEMBER	
1	5150	81	1130	74	59	12	52	87	12
2	5300	95	1360	75	37	7.5	125	96	32
3	4300	150	1740	209	60	34	127	82	28
4	5070	149	2040	296	84	67	127	86	29
5	5200	99	1390	78	109	23	86	42	9.8
6	5180	97	1360	72	96	19	65	32	5.6
7	4910	134	1780	134	76	28	66	31	5.5
8	3520	106	1010	111	79	24	76	34	7.0
9	3650	174	1710	167	96	43	81	24	5.3
10	3920	115	1220	579	81	127	89	304	113
11	4740	116	1480	190	112	57	867	1370	3020
12	4430	155	1850	122	111	37	642	957	1660
13	5430	118	1730	78	88	19	608	156	256
14	4560	139	1710	63	66	11	816	94	207
15	3430	119	1100	53	84	12	1130	278	843
16	2580	93	648	74	98	20	3420	445	3840
17	1200	73	237	93	99	25	3890	92	966
18	546	75	111	82	90	20	1250	62	209
19	284	96	74	79	95	20	222	35	21
20	196	92	49	99	95	25	565	33	50
21	165	75	33	1040	89	250	3070	29	240
22	154	92	38	1080	80	233	3730	49	493
23	184	93	46	903	102	249	3750	54	547
24	165	86	38	761	100	205	4690	31	393
25	74	55	11	212	90	52	4830	34	443
26	69	67	12	98	90	24	5070	43	589
27	71	88	17	310	82	69	5210	32	450
28	72	97	19	406	96	105	5050	29	395
29	72	88	17	298	86	69	3200	21	181
30	72	72	14	102	73	20	1250	12	41
31	73	76	15	39	55	5.8	---	---	---
TOTAL	74767	---	23989	7977	---	1912.3	54154	--	15091.2
YEAR	825775		383015.69						

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05508805 SPENCER CREEK BELOW PLUM CREEK NEAR FRANKFORD, MO

LOCATION.--Lat 39°31'13", long 91°20'32", in NW¼NW¼NW¼ sec.27, T.55 N., R.4 W., Ralls County, Hydrologic Unit 07110007, on left bank 25 ft downstream from bridge on U.S. Highway 61, 0.75 mi downstream from Plum Creek, 2.5 mi northwest of Frankford, and at mile 4.5.

DRAINAGE AREA.--206 mi².

PERIOD OF RECORD.--October 1, 1979 to current year, March 27, 1930 to Sept. 1978 fragmentary record.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 485.00 ft National Geodetic Vertical Datum of 1929. March 24, 1930 to September 30, 1936 nonrecording gage at site 0.75 mi upstream at datum 3.63 ft higher. October 7, 1961 to July 15, 1974, fragmentary record, at present site and datum unknown, July 26, 1974 to April 15, 1975 from nonrecording gage present site and datum.

REMARKS.--Records good. Several observations of water temperature and specific conductance were made during the year.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 9,550 ft³/s Apr. 21, at 1230, gage height, 13.97 ft: minimum daily, 0.11 ft³/s Aug. 23.

DISCHARGE (CUBIC FEET/SECOND) WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.0	9.2	120	29	37	163	140	152	21	7.4	1.3	.22
2	1.0	756	93	29	39	207	128	107	16	7.1	1.3	.28
3	1.0	810	636	29	51	353	1080	89	14	8.4	10	.27
4	.78	1350	2490	30	55	810	990	74	13	20	2.7	.28
5	.54	198	805	66	36	548	426	62	11	14	1.1	.26
6	.27	80	464	155	20	204	216	59	11	24	1.1	.25
7	.27	50	252	349	16	148	153	59	12	12	5.0	.28
8	.27	32	155	339	14	115	1060	49	12	8.7	4.2	.41
9	.24	25	123	228	14	83	1560	42	1970	9.2	1.7	.45
10	.24	437	98	135	18	78	416	36	303	24	1.1	.99
11	.27	402	2700	70	29	72	249	32	100	165	.80	92
12	.30	143	1290	55	444	64	920	28	60	17	.70	24
13	.27	70	388	39	346	58	433	222	40	13	.70	12
14	.65	48	564	27	138	51	207	78	30	8.0	.60	7.4
15	1.1	33	267	23	80	2070	213	46	24	5.9	.50	5.0
16	1.0	25	138	20	62	2530	195	33	21	4.6	.41	3.9
17	.89	19	95	17	243	1040	145	26	16	3.8	.32	2.7
18	.78	17	70	15	1510	875	113	21	14	3.2	.30	2.5
19	1.0	17	57	12	870	5530	88	18	11	3.2	.24	2.2
20	1.7	46	60	10	228	1760	78	72	10	2.9	.17	2.2
21	24	74	56	8.4	150	628	5460	40	10	2.9	.19	2.0
22	3410	45	50	9.6	193	307	3380	42	10	2.6	.21	1.8
23	186	5140	46	13	83	198	772	85	12	2.4	.11	2.2
24	62	835	43	15	72	492	321	30	13	2.4	.13	2.3
25	29	234	41	26	55	1630	216	26	12	2.4	.16	2.4
26	17	145	38	64	60	640	165	57	16	2.0	.16	2.1
27	14	2560	36	153	175	1240	133	58	14	2.0	.22	2.0
28	12	1380	37	85	180	391	95	163	10	1.8	.23	1.8
29	10	342	34	93	145	237	270	78	8.1	1.7	.22	1.7
30	9.2	180	31	90	---	186	632	42	7.3	1.4	.16	1.7
31	8.4	---	28	53	---	158	---	28	---	1.4	.15	---
TOTAL	3795.17	15502.2	11505	2287.0	5273	22866	20254	1954	2821.4	384.4	36.18	177.59
MEAN	122	517	365	73.8	182	738	675	63.0	94.0	12.4	1.17	5.92
MAX	3410	5140	2700	349	1510	5530	5460	222	1970	165	10	92
MIN	.24	9.2	28	8.4	14	51	78	18	7.3	1.4	.11	.22

CAL YR 1983	TOTAL	80985.95	MEAN	222	MAX	7770	MIN	.18
WTR YR 1984	TOTAL	86655.94	MEAN	237	MAX	5530	MIN	.11

05508805 SPENCER CREEK BELOW PLUM CREEK NEAR FRANKFORD, MO--Continued

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984
INSTANTANEOUS OBSERVATIONS AT 0800

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.84	2.91	3.68	3.11	3.15	3.82	3.76	3.81	3.14	2.83	2.65	2.55
2	2.84	7.52	3.56	---	3.27	4.03	3.69	3.61	3.08	2.80	2.66	2.55
3	2.84	4.08	3.50	---	3.34	4.44	6.85	3.55	3.03	2.84	2.66	2.56
4	2.83	6.39	8.52	---	3.39	5.04	6.22	3.47	3.01	2.94	2.77	2.55
5	2.81	4.03	5.77	3.43	3.28	5.12	4.83	3.41	2.98	2.98	2.67	2.56
6	2.81	3.53	4.80	---	3.02	4.06	4.04	3.38	2.96	3.12	2.66	2.56
7	2.81	3.35	4.20	4.55	3.05	3.74	3.81	3.40	3.00	2.94	2.66	2.56
8	2.81	3.23	3.83	4.53	3.04	3.65	4.69	3.35	2.97	2.86	2.86	2.56
9	2.80	3.16	3.70	4.13	3.03	3.52	7.77	3.29	8.94	2.83	2.71	2.59
10	2.82	4.68	3.56	3.72	3.08	3.49	4.70	3.25	4.35	3.11	2.67	2.61
11	2.83	4.71	8.20	3.35	3.17	3.46	4.15	3.23	3.53	4.23	2.64	3.59
12	2.88	3.80	7.15	3.32	3.59	3.39	5.93	3.19	3.30	3.11	2.63	3.15
13	2.87	3.48	4.60	3.28	4.52	3.40	4.76	4.43	3.19	3.06	2.63	3.02
14	2.88	3.34	5.28	3.17	3.76	3.34	4.02	3.52	3.12	2.92	2.63	2.89
15	2.97	3.24	4.26	3.15	3.51	5.38	4.07	3.33	3.07	2.85	2.59	2.80
16	2.97	3.17	3.75	3.09	3.40	7.96	3.93	3.23	3.05	2.80	2.59	2.75
17	2.95	3.11	3.47	3.04	4.21	4.80	3.76	3.17	3.00	2.77	2.57	2.71
18	2.93	3.09	3.38	3.06	3.90	5.95	3.66	3.13	2.96	2.74	2.57	2.69
19	2.93	3.07	3.22	2.98	6.10	13.26	3.55	3.09	2.92	2.73	2.56	2.66
20	3.01	3.26	3.34	2.96	4.12	7.40	3.51	3.40	2.90	2.72	2.54	2.66
21	3.05	3.50	---	2.91	3.75	5.32	13.30	3.29	2.89	2.73	2.54	2.65
22	12.54	3.31	---	2.92	3.61	4.37	9.84	3.19	2.89	2.71	2.55	2.64
23	3.99	13.20	3.23	2.99	3.51	3.98	5.67	3.64	2.93	2.71	2.53	2.67
24	3.44	5.84	---	3.03	3.48	3.90	4.43	3.21	2.96	2.70	2.53	2.67
25	3.22	4.13	---	3.11	3.38	7.47	4.05	3.17	2.88	2.72	2.53	2.68
26	3.09	3.78	---	3.37	3.36	4.40	3.87	3.59	3.00	2.70	2.53	2.66
27	3.03	3.67	---	3.82	3.91	6.74	3.73	3.19	2.96	2.68	2.55	2.65
28	3.00	6.90	---	3.54	3.93	4.61	3.57	3.92	2.89	2.69	2.55	2.64
29	2.96	4.51	---	3.51	3.75	4.09	3.53	3.53	2.85	2.68	2.55	2.63
30	2.93	3.94	---	3.48	---	4.07	4.98	3.30	2.81	2.67	2.54	2.63
31	2.92	---	3.10	3.28	---	3.78	---	3.19	---	2.66	2.53	---
MEAN	3.28	4.33	---	---	3.61	4.90	4.96	3.40	3.25	2.87	2.61	2.70
MAX	12.54	13.20	---	---	6.10	13.26	13.30	4.43	8.94	4.23	2.86	3.59
MIN	2.80	2.91	---	---	3.02	3.34	3.51	3.09	2.81	2.66	2.53	2.55

05514500 CUIVRE RIVER NEAR TROY, MO

LOCATION.--Lat 39°00'59", long 90°59'00", in SE¼ sec.14, T.49 N., R.1 W., Lincoln County, Hydrologic Unit 07110008, on downstream side of right end of downstream bridge on dual U.S. Highway 61, 1.2 mi downstream from confluence of North and West Forks Cuivre River and 2 mi north of Troy.

DRAINAGE AREA.--903 mi².

PERIOD OF RECORD.--February 1922 to July 1972, May 1979 to current year.

REVISED RECORDS.--WSP 855: 1933(m), 1935(m), 1937(m). WSP 895: 1939. WSP 1005: 1942(m). WSP 1308: 1922-25(m).

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 450.27 ft National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1930, nonrecording gage at site 3 mi downstream at datum 4.31 ft lower. Oct. 1, 1930 to July 1939, nonrecording gage at present site and datum.

REMARKS.--Records good. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--54 years (water years 1922-71, 1980 to current year) 672 ft³/s, 10.11 in/yr, 486,900 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 120,000 ft³/s October 5, 1941, gage height 33.4 ft from floodmarks; no flow at times in 1936, 1954, 1964.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of December 1895 was 5 or 6 feet lower at Frenchmens Bluff, 3 mi downstream, than the October 1941 flood which is the highest flood since 1888.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 10,000 ft³/s and maximum (*):

Date	Time	Discharge (ft³/s)	Gage height (ft)
Nov. 23	1345	11,100	20.28
Nov. 28	unknown	17,300	23.73
Mar. 16	0015	10,000	19.46
Apr. 21	2400	*27,700	25.85
Sept. 11	1700	14,500	22.65

Minimum discharge, 2.3 ft³/s Oct. 1, 2.

DISCHARGE (CUBIC FEET/SECOND) WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.6	7.5	700	102	197	1180	506	450	211	37	7.5	2.6
2	3.0	80	350	101	179	1170	476	370	170	33	7.1	3.2
3	3.5	500	5000	100	187	2050	6120	339	136	31	6.7	3.5
4	3.3	2350	3500	100	218	4730	5180	314	118	99	7.1	3.3
5	3.2	600	2800	210	214	4480	2330	300	102	221	8.7	3.5
6	3.0	250	1450	470	172	2220	1170	359	95	126	7.5	3.2
7	2.9	150	700	1400	132	1160	716	399	82	81	6.7	3.0
8	2.9	125	550	1490	110	918	2330	350	74	55	6.3	10
9	2.6	600	400	868	91	656	6550	295	2940	41	6.0	218
10	2.4	540	350	758	172	536	2600	260	940	34	5.5	81
11	2.4	290	5500	523	305	519	1200	240	383	32	4.9	9800
12	3.0	150	3500	418	961	485	2060	216	238	29	4.7	2450
13	2.7	120	2100	278	2000	453	2660	247	158	58	4.7	486
14	2.7	110	1400	214	906	437	1090	276	118	66	4.2	221
15	2.7	90	900	163	540	4320	762	228	149	56	3.9	134
16	2.9	78	600	132	427	6230	708	192	252	40	3.9	87
17	3.5	70	400	108	611	4620	614	165	130	31	4.2	64
18	3.7	64	280	91	1070	3070	499	149	90	24	4.4	50
19	7.1	396	210	89	3500	3380	424	140	66	20	4.2	40
20	25	1860	220	70	1270	2980	374	242	60	18	4.2	34
21	59	645	210	53	712	2970	14500	197	56	17	4.2	29
22	77	348	190	51	499	1620	15400	209	60	15	4.2	29
23	55	4260	170	59	418	948	4780	440	56	14	3.9	30
24	73	3680	160	68	339	2150	2200	292	238	12	3.7	53
25	42	1360	150	87	289	6040	1140	255	311	10	3.5	48
26	42	561	140	136	322	3070	802	782	177	10	3.3	32
27	27	2200	130	225	1760	4490	634	664	104	9.5	3.5	26
28	16	9900	140	242	1690	2310	509	1080	71	8.7	3.5	22
29	10	3000	120	240	1360	1230	496	557	55	7.9	3.3	19
30	8.3	1300	110	250	---	782	526	353	43	7.5	3.0	18
31	7.5	---	105	218	---	600	---	265	---	7.5	2.6	---
TOTAL	501.9	35684.5	32535	9314	20651	71804	79356	10625	7683	1251.1	151.1	14003.3
MEAN	16.2	1189	1050	300	712	2316	2645	343	256	40.4	4.87	467
MAX	77	9900	5500	1490	3500	6230	15400	1080	2940	221	8.7	9800
MIN	2.4	7.5	105	51	91	437	374	140	43	7.5	2.6	2.6

CAL YR 1983	TOTAL	301221.1	MEAN	825	MAX	41300	MIN	2.4
WTR YR 1984	TOTAL	283559.9	MEAN	775	MAX	15400	MIN	2.4

05514500 CUIVRE RIVER NEAR TROY, MO.--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1982 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	TIME	AGENCY ANALYZING SAMPLE (CODE NUMBER) (00028)	STREAMFLOW, INSTANTANEOUS (CFS) (00061)	SPECIFIC CONDUCTANCE (UMHOS) (00095)	PH (STANDARD UNITS) (00400)	TEMPERATURE (DEG C) (00010)	OXYGEN, DISSOLVED (MG/L) (00300)	OXYGEN, DISSOLVED (PERCENT SATURATION) (00301)	OXYGEN DEMAND, CHEMICAL (LOW LEVEL) (MG/L) (00335)	OXYGEN DEMAND, CHEMICAL (HIGH LEVEL) (MG/L) (00340)	COLIFORM, FECAL, 0.7 UM-MF (COLS./100 ML) (31625)
OCT 20...	0740	29001	38	408	7.7	14.0	6.3	60	16	--	740
NOV 15...	1220	29001	80	320	7.2	8.0	9.8	82	30	--	73
DEC 20...	1300	29001	273	350	7.7	1.0	9.6	69	17	--	--
JAN 11...	1510	29001	402	286	7.2	.5	9.2	65	22	--	720
FEB 24...	0800	29001	206	325	7.8	7.0	11.3	92	18	--	88
MAR 14...	1445	29001	289	353	7.7	4.5	10.0	77	11	--	64
APR 12...	0710	29001	894	272	7.6	12.0	8.0	74	13	--	140
MAY 16...	1400	29001	166	390	7.8	20.0	7.2	77	14	--	220
JUN 14...	0810	29001	118	277	7.3	25.0	3.0	35	25	--	K1300
JUL 11...	1445	80020	43	325	7.5	25.0	5.0	59	--	43	1000
AUG 09...	0845	80020	6.3	432	6.9	27.5	2.4	30	--	26	K20
SEP 05...	1545	80020	3.3	445	7.4	23.0	4.5	51	--	--	100

DATE	HARDNESS (MG/L AS CACO3) (00900)	HARDNESS, NONCARBONATE (MG/L CACO3) (00902)	CALCIUM DISSOLVED (MG/L AS CA) (00915)	MAGNESIUM, DISSOLVED (MG/L AS MG) (00925)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	POTASSIUM, DISSOLVED (MG/L AS K) (00935)	ALKALINITY FIELD (MG/L AS CACO3) (00410)	CARBON DIOXIDE DISSOLVED (MG/L AS CO2) (00405)	SULFATE DISSOLVED (MG/L AS SO4) (00945)	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)
OCT 20...	210	23	64	12	8.8	3.5	187	7.2	23	16
NOV 15...	--	--	--	--	--	--	115	14	--	--
DEC 20...	--	--	--	--	--	--	134	5.2	--	--
JAN 11...	--	--	--	5.4	7.4	3.7	78	9.5	33	10
FEB 24...	--	--	--	--	--	--	106	3.2	--	--
MAR 14...	--	--	--	--	--	--	112	4.3	--	--
APR 12...	120	26	37	6.6	5.8	3.0	94	4.6	26	5.0
MAY 16...	--	--	--	--	--	--	144	4.4	--	--
JUN 14...	--	--	--	--	--	--	109	11	--	--
JUL 11...	150	32	49	7.8	7.8	4.5	123	7.5	23	9.7
AUG 09...	--	--	--	--	--	--	173	42	--	--
SEP 05...	--	--	--	--	--	--	185	14	--	--

K--Results based on colony count outside the acceptable range (non-ideal colony count).

05514500 CUIVRE RIVER NEAR TROY, MO--Continued

DATE	FLUORIDE, DISSOLVED (MG/L AS F) (00950)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L) (70300)	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MG/L) (00530)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITROGEN, AMMONIA TOTAL (MG/L AS N) (00610)	PHOSPHORUS, TOTAL (MG/L AS P) (00665)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD) (01027)	CADMIUM DISSOLVED (UG/L AS CD) (01025)	COPPER, TOTAL RECOVERABLE (UG/L AS CU) (01042)	COPPER, DISSOLVED (UG/L AS CU) (01040)
OCT 20...	.20	250	29	.21	.110	.080	<2	<2	<5	<5
NOV 15...	--	--	33	2.0	.120	.150	--	--	--	--
DEC 20...	--	--	17	3.7	.130	.140	--	--	--	--
JAN 11...	.20	207	49	4.0	.240	.130	<2	<2	6	<5
FEB 24...	--	--	60	2.9	.170	.240	--	--	--	--
MAR 14...	--	--	21	2.8	.030	.070	--	--	--	--
APR 12...	.10	182	61	1.9	.090	.120	<2	<2	<5	<5
MAY 16...	--	--	29	.85	.040	.070	--	--	--	--
JUN 14...	--	--	135	2.0	.100	.160	--	--	--	--
JUL 11...	.20	191	33	1.4	.020	.090	1	<1	7	3
AUG 09...	--	--	14	.90	.300	.070	--	--	--	--
SEP 05...	--	--	5	<.10	.020	.050	--	--	--	--

DATE	IRON, TOTAL RECOVERABLE (UG/L AS FE) (01045)	IRON, DISSOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOVERABLE (UG/L AS PB) (01051)	LEAD, DISSOLVED (UG/L AS PB) (01049)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN) (01055)	MANGANESE, DISSOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOVERABLE (UG/L AS HG) (71900)	MERCURY DISSOLVED (UG/L AS HG) (71890)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN) (01092)	ZINC, DISSOLVED (UG/L AS ZN) (01090)
OCT 20...	1900	20	<5	<5	860	700	<.2	<.2	10	<10
NOV 15...	--	--	--	--	--	--	--	--	--	--
DEC 20...	--	--	--	--	--	--	--	--	--	--
JAN 11...	2600	170	<5	<5	160	120	<.2	<.2	20	<10
FEB 24...	--	--	--	--	--	--	--	--	--	--
MAR 14...	--	--	--	--	--	--	--	--	--	--
APR 12...	2600	190	<5	<5	140	86	<.2	<.2	30	<10
MAY 16...	--	--	--	--	--	--	--	--	--	--
JUN 14...	--	--	--	--	--	--	--	--	--	--
JUL 11...	2200	20	7	4	500	270	.9	<.1	<10	12
AUG 09...	--	--	--	--	--	--	--	--	--	--
SEP 05...	--	--	--	--	--	--	--	--	--	--

05587500 MISSISSIPPI RIVER AT ALTON, IL

LOCATION.--Lat 38°53'06", long 90°10'51", in NE¼ sec.14, T.5 N., R.10 W., Madison County, Hydrologic Unit 07110009, near right bank in downstream end of intermediate lock wall of lock and dam 26 at Alton, 300 ft downstream from Missouri and Illinois Bridge and Belt Railroad bridge, 7.7 mi upstream from Missouri River, and at mile 202.7 upstream from Ohio River.

DRAINAGE AREA.--171,500 mi^2, approximately.

WATER DISCHARGE RECORDS

PERIOD OF RECORD.--Discharge: October 1927 to current year. Monthly discharge only for some periods, published in WSP 1308. Gage heights: At Grafton since 1879 and at Alton since January 1917 to December 1939 in reports of National Weather Service.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers). Prior to Mar. 20, 1933, nonrecording gage at Grafton 15.3 mi upstream, at datum 403.79 ft higher. Mar. 20, 1933, to Jan. 4, 1937, and Nov. 11, 1937, to Jan. 31, 1938, nonrecording gage 300 ft upstream at datum 395.48 ft higher. Since July 11, 1940, auxiliary water-stage recorder 5.9 mi downstream; previously various combinations of gages were used.

REMARKS.--Records good. Natural flow of stream affected by many reservoirs and navigation dams in upper Mississippi River basin. Floodwater from Missouri River overtops or breaches the levees at extreme high stages. Overflow from Missouri River occurred during various floods as shown in the following table:

Period	Runoff for period acre-ft	Date	Maximum Discharge ft^3/s
May 21 to June 4, 1943	1,075,000	May 24, 1943	90,000
Apr. 29 to May 13, 1944	891,000	Apr. 30, 1944	90,000
June 29 to July 19, 1947	687,000	July 2, 1947	65,000
July 5-31, 1951	2,534,000	July 20, 1951	110,000
Apr. 3-7, 23-26, 1973	Unknown	Unknown	Unknown

AVERAGE DISCHARGE.--57 years, 102,100 ft^3/s 73,970,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 535,000 ft^3/s Apr. 29, 1973, includes undetermined amount of overflow from Missouri River; maximum elevation, 432.15 ft Apr. 28, 1973; minimum discharge, 7,960 ft^3/s Nov. 7, 1948, result of temporary storage in pool of lock and dam 26.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 1844 reached a stage of 432.10 ft, present datum.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 305,000 ft^3/s Apr. 25 at 1000; maximum elevation, 423.73 ft Apr. 24; minimum, 30,200 ft^3/s Sept. 5.

DISCHARGE (CUBIC FEET/SECOND) WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	105000	83700	226000	81400	68200	248000	233000	245000	241000	279000	94900	45300
2	90500	85800	213000	82500	72800	243000	234000	242000	242000	280000	82000	47300
3	80200	100000	204000	83400	71300	234000	236000	246000	241000	277000	75300	41100
4	70000	131000	222000	86800	67800	236000	254000	247000	237000	272000	80500	36800
5	68000	134000	232000	88900	61800	231000	240000	250000	231000	264000	86800	31000
6	74900	104000	221000	89800	61500	239000	243000	265000	225000	256000	79600	39200
7	44500	93000	201000	93700	72400	237000	248000	280000	212000	250000	73700	53100
8	55400	85200	180000	97900	74100	223000	252000	287000	194000	242000	74300	61900
9	47000	77400	119000	91200	70700	200000	254000	281000	188000	234000	87600	65600
10	43800	77500	104000	112000	74200	165000	241000	274000	221000	227000	92900	60500
11	48300	77500	134000	100000	67500	140000	253000	267000	223000	220000	86200	77100
12	48400	102000	194000	101000	75100	119000	249000	262000	208000	212000	86600	74900
13	56400	105000	192000	104000	91400	119000	245000	259000	204000	201000	93500	55700
14	55600	85300	158000	92100	105000	90700	241000	261000	202000	195000	86700	50400
15	61400	75600	164000	90500	143000	92700	234000	263000	196000	193000	81900	49300
16	66200	66300	125000	82700	162000	148000	234000	263000	191000	197000	84500	60800
17	73900	82800	122000	81300	182000	199000	236000	262000	192000	203000	75500	67600
18	79400	93900	100000	77100	201000	215000	233000	249000	198000	206000	68800	59700
19	83300	90800	62900	73900	221000	215000	221000	240000	204000	196000	76700	34900
20	99500	90100	52000	74700	236000	219000	234000	229000	205000	181000	78500	43300
21	119000	83600	50300	68300	238000	231000	238000	234000	205000	169000	70100	42000
22	114000	90900	42700	65500	239000	219000	255000	246000	211000	161000	64700	61500
23	120000	126000	48900	66300	243000	219000	284000	243000	219000	149000	71800	54600
24	108000	186000	54000	65400	243000	204000	300000	229000	229000	144000	67200	39600
25	110000	162000	52600	62700	241000	227000	302000	232000	240000	135000	59800	39800
26	116000	152000	58500	65800	244000	248000	292000	224000	248000	147000	57800	41400
27	114000	179000	58100	70000	250000	247000	282000	232000	255000	150000	45600	55700
28	119000	219000	56400	47600	254000	232000	274000	239000	263000	156000	48200	58400
29	111000	238000	69600	50200	252000	217000	264000	243000	268000	146000	46700	52900
30	99000	231000	81400	53700	---	214000	251000	243000	273000	118000	64600	55300
31	92500	---	83900	62300	---	229000	---	241000	---	95700	56300	---
TOTAL	2574200	3508400	3882300	2462700	4382800	6300400	7557000	7778000	6666000	6155700	2299300	1556700
MEAN	83040	116900	125200	79440	151100	203200	251900	250900	222200	198600	74170	51890
MAX	120000	238000	232000	112000	254000	248000	302000	287000	273000	280000	94900	77100
MIN	43800	66300	42700	47600	61500	90700	221000	224000	188000	95700	45600	31000

CAL YR 1983 TOTAL 58856600 MEAN 161300 MAX 405000 MIN 36100
WTR YR 1984 TOTAL 55123500 MEAN 150600 MAX 302000 MIN 31000

05587500 MISSISSIPPI RIVER AT ALTON, IL--Continued

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--
SUSPENDED-SEDIMENT: October 1980 to current year.

REMARKS.--The number of missing days of record exceeds 20 percent of the year.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SUSPENDED-SEDIMENT CONCENTRATION: Maximum daily mean, 2,120 mg/L May 13, 1981; minimum daily mean, 7 mg/L March 17, 1981.
SUSPENDED-SEDIMENT LOADS: Maximum daily, 1,120,000 tons July 7 and 8, 1981; minimum daily, 1,290 tons March 17, 1981.

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT

DATE	STREAM-FLOW, INSTANTANEOUS (CFS) (00061)	SED. SUSP. FALL DIAM. % FINER THAN .002 MM (70337)	SED. SUSP. FALL DIAM. % FINER THAN .004 MM (70338)	SED. SUSP. FALL DIAM. % FINER THAN .008 MM (70339)	SED. SUSP. FALL DIAM. % FINER THAN .016 MM (70340)	SED. SUSP. FALL DIAM. % FINER THAN .062 MM (70342)	SED. SUSP. FALL DIAM. % FINER THAN .125 MM (70343)	SED. SUSP. FALL DIAM. % FINER THAN .250 MM (70344)	SED. SUSP. FALL DIAM. % FINER THAN .500 MM (70345)	SED. SUSP. FALL DIAM. % FINER THAN 1.00 MM (70346)
OCT , 1983 26...	93000	--	--	--	--	69	70	73	98	100
FEB , 1984 17...	176000	40	46	57	71	99	99	100	--	--
MAR 22...	206000	52	56	59	63	98	99	99	100	--
APR 18...	230000	44	49	53	68	97	98	99	100	--
MAY 15...	260000	40	45	54	69	90	92	95	100	--
JUN 20...	205000	57	66	74	89	99	--	--	--	--

PARTICLE-SIZE DISTRIBUTION OF SURFACE BED MATERIAL

DATE	BED MAT. SIEVE DIAM. % FINER THAN .062 MM (80164)	BED MAT. SIEVE DIAM. % FINER THAN .125 MM (80165)	BED MAT. SIEVE DIAM. % FINER THAN .250 MM (80166)	BED MAT. SIEVE DIAM. % FINER THAN .500 MM (80167)	BED MAT. SIEVE DIAM. % FINER THAN 1.00 MM (80168)	BED MAT. SIEVE DIAM. % FINER THAN 2.00 MM (80169)	BED MAT. SIEVE DIAM. % FINER THAN 4.00 MM (80170)	BED MAT. SIEVE DIAM. % FINER THAN 8.00 MM (80171)	BED MAT. SIEVE DIAM. % FINER THAN 16.0 MM (80172)	BED MAT. SIEVE DIAM. % FINER THAN 32.0 MM (80173)
OCT , 1983 26...	0	0	1	28	74	87	91	94	96	100
FEB , 1984 17...	0	0	2	32	76	84	89	93	96	100
JUL 27...	0	0	5	59	92	98	99	100	--	--
SEP 28...	0	0	10	63	87	92	94	96	100	--

05587500 MISSISSIPPI RIVER AT ALTON, IL--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		OCTOBER			NOVEMBER			DECEMBER	
1	105000	---	---	83700	128	28900	226000	---	---
2	90500	---	---	85800	90	20800	213000	---	---
3	80200	---	---	100000	81	21900	204000	---	---
4	70000	---	---	131000	121	42800	222000	---	---
5	68000	---	---	134000	196	70900	232000	---	---
6	74900	---	---	104000	132	37100	221000	---	---
7	44500	---	---	93000	127	31900	201000	---	---
8	55400	---	---	85200	145	33400	180000	---	---
9	47000	---	---	77400	126	26300	119000	---	---
10	43800	---	---	77500	122	25500	104000	---	---
11	48300	---	---	77500	100	20900	134000	298	108000
12	48400	---	---	102000	131	36100	194000	330	173000
13	56400	---	---	105000	148	42000	192000	---	---
14	55600	---	---	85300	112	25800	158000	---	---
15	61400	---	---	75600	138	28200	164000	---	---
16	66200	---	---	66300	147	26300	125000	---	---
17	73900	---	---	82800	140	31300	122000	---	---
18	79400	---	---	93900	148	37500	100000	---	---
19	83300	---	---	90800	154	37800	62900	---	---
20	99500	---	---	90100	119	28900	52000	---	---
21	119000	---	---	83600	117	26400	50300	---	---
22	114000	---	---	90900	91	22300	42700	---	---
23	120000	---	---	126000	122	41500	48900	---	---
24	108000	---	---	186000	286	144000	54000	---	---
25	110000	---	---	162000	472	206000	52600	---	---
26	116000	---	---	152000	272	112000	58500	---	---
27	114000	---	---	179000	239	116000	58100	---	---
28	119000	---	---	219000	428	253000	56400	---	---
29	111000	---	---	238000	669	430000	69600	---	---
30	99000	---	---	231000	566	353000	81400	---	---
31	92500	122	30500	---	---	---	83900	---	---
TOTAL	2574200	---	30500	3508400	---	2358500	3882300	---	281000

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		JANUARY			FEBRUARY			MARCH	
1	81400	---	---	68200	---	---	248000	---	---
2	82500	---	---	72800	---	---	243000	---	---
3	83400	---	---	71300	---	---	234000	---	---
4	86800	---	---	67800	---	---	236000	---	---
5	88900	---	---	61800	---	---	231000	---	---
6	89800	---	---	61500	---	---	239000	---	---
7	93700	---	---	72400	---	---	237000	---	---
8	97900	118	31200	74100	---	---	223000	---	---
9	91200	---	---	70700	---	---	200000	---	---
10	112000	---	---	74200	---	---	165000	---	---
11	100000	---	---	67500	---	---	140000	---	---
12	101000	---	---	75100	149	30200	119000	---	---
13	104000	---	---	91400	---	---	119000	---	---
14	92100	---	---	105000	---	---	90700	290	71000
15	90500	---	---	143000	---	---	92700	154	38500
16	82700	---	---	162000	---	---	148000	316	126000
17	81300	---	---	182000	---	---	199000	719	386000
18	77100	---	---	201000	---	---	215000	1060	615000
19	73900	---	---	221000	---	---	215000	1080	627000
20	74700	---	---	236000	---	---	219000	905	535000
21	68300	---	---	238000	---	---	231000	698	435000
22	65500	---	---	239000	---	---	219000	466	276000
23	66300	---	---	243000	---	---	219000	290	171000
24	65400	---	---	243000	---	---	204000	211	116000
25	62700	---	---	241000	---	---	227000	204	125000
26	65800	---	---	244000	---	---	248000	281	188000
27	70000	---	---	250000	---	---	247000	366	244000
28	47600	---	---	254000	---	---	232000	338	212000
29	50200	---	---	252000	---	---	217000	288	169000
30	53700	---	---	---	---	---	214000	185	107000
31	62300	---	---	---	---	---	229000	179	111000
TOTAL	2462700	---	31200	4382800	---	30200	6300400	---	4552500

05587500 MISSISSIPPI RIVER AT ALTON, IL--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		APRIL			MAY			JUNE	
1	233000	161	101000	245000	---	---	241000	---	---
2	234000	---	---	242000	---	---	242000	---	---
3	236000	---	---	246000	---	---	241000	---	---
4	254000	---	---	247000	---	---	237000	---	---
5	240000	---	---	250000	---	---	231000	861	537000
6	243000	---	---	265000	---	---	225000	---	---
7	248000	---	---	280000	---	---	212000	---	---
8	252000	---	---	287000	---	---	194000	---	---
9	254000	---	---	281000	---	---	188000	---	---
10	241000	---	---	274000	---	---	221000	---	---
11	253000	---	---	267000	---	---	223000	---	---
12	249000	---	---	262000	---	---	208000	---	---
13	245000	---	---	259000	---	---	204000	---	---
14	241000	---	---	261000	---	---	202000	---	---
15	234000	---	---	263000	174	124000	196000	---	---
16	234000	---	---	263000	---	---	191000	---	---
17	236000	---	---	262000	---	---	192000	---	---
18	233000	139	87400	249000	---	---	198000	---	---
19	221000	---	---	240000	---	---	204000	---	---
20	234000	---	---	229000	---	---	205000	368	204000
21	238000	---	---	234000	---	---	205000	243	135000
22	255000	---	---	246000	---	---	211000	297	169000
23	284000	---	---	243000	223	146000	219000	---	---
24	300000	---	---	229000	---	---	229000	---	---
25	302000	---	---	232000	---	---	240000	252	163000
26	292000	---	---	224000	---	---	248000	285	191000
27	282000	---	---	232000	---	---	255000	316	218000
28	274000	---	---	239000	---	---	263000	578	410000
29	264000	---	---	243000	223	146000	268000	158	114000
30	251000	---	---	243000	248	163000	273000	186	137000
31	---	---	---	241000	148	96300	---	---	---
TOTAL	7557000	---	188400	7778000	---	675300	6666000	---	2278000
		JULY			AUGUST			SEPTEMBER	
1	279000	398	300000	94900	240	61500	45300	60	7340
2	280000	500	378000	82000	249	55100	47300	63	8050
3	277000	244	182000	75300	362	73600	41100	85	9430
4	272000	427	314000	80500	136	29600	36800	81	8050
5	264000	241	172000	86800	136	31900	31000	88	7370
6	256000	354	245000	79600	118	25400	39200	109	11500
7	250000	365	246000	73700	106	21100	53100	82	11800
8	242000	283	185000	74300	97	19500	61900	90	15000
9	234000	179	113000	87600	404	95600	65600	92	16300
10	227000	117	71700	92900	1030	258000	60500	114	18600
11	220000	165	98000	86200	315	73300	77100	99	20400
12	212000	215	123000	86600	70	16400	74900	104	21000
13	201000	225	122000	93500	179	45200	55700	104	15600
14	195000	222	117000	86700	180	42100	50400	97	13200
15	193000	224	117000	81900	100	22100	49300	84	11200
16	197000	234	124000	84500	106	24200	60800	110	18100
17	203000	374	205000	75500	140	28500	67600	191	34900
18	206000	600	334000	68800	81	15000	59700	97	15600
19	196000	537	284000	76700	72	14900	34900	107	10100
20	181000	410	200000	78500	67	14200	43300	76	8890
21	169000	357	163000	70100	63	11900	42000	69	7820
22	161000	314	136000	64700	71	12400	61500	102	16900
23	149000	265	107000	71800	76	14700	54600	130	19200
24	144000	221	85900	67200	79	14300	39600	95	10200
25	135000	184	67100	59800	80	12900	39800	85	9130
26	147000	168	66700	57800	314	49000	41400	96	10700
27	150000	222	89900	45600	1510	186000	55700	136	20500
28	156000	441	186000	48200	667	86800	58400	143	22500
29	146000	455	179000	46700	167	21100	52900	89	12700
30	118000	427	136000	64600	78	13600	55300	90	13400
31	95700	348	89900	56300	63	9580	---	---	---
TOTAL	6155700	---	5237200	2299300	---	1399480	1556700	---	425480
YEAR	55123500		17487760						

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05587550 MISSISSIPPI RIVER BELOW ALTON, IL
(National stream-quality accounting network station)

WATER-QUALITY RECORDS

LOCATION.--Lat 38°51'41", long 90°08'15", Madison County, Hydrologic Unit 07110009, 3.0 mi downstream from gaging station, 4.7 mi upstream from Missouri River and at mile 199.7 upstream from Ohio River.

DRAINAGE AREA.--171,500 mi² approximately above gage.

PERIOD OF RECORD.--Water year 1975 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1974 to September 1981.
WATER TEMPERATURE: October 1974 to September 1981.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum, 704 micromhos January 24, 1977; minimum, 286 micromhos July 5, 1978.
WATER TEMPERATURE: Maximum, 30.0°C on several days during July; minimum, 0.0°C on many days during winter periods.

REMARKS.--Records of discharge are given for gaging station 05587500 Mississippi River at Alton, Ill.

WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS) (00061)	SPECIFIC CONDUCTANCE (UMHOS) (00095)	PH (STANDARD UNITS) (00400)	TEMPERATURE (DEG C) (00010)	TURBIDITY (NTU) (00076)	OXYGEN, DISSOLVED (MG/L) (00300)	OXYGEN, DISSOLVED (PERCENT SATURATION) (00301)	COLIFORM, FECAL, 0.7 UM-MF (COLS./100 ML) (31625)	STREPTOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)
NOV										
17...	1200	91800	391	8.1	8.0	60	4.8	40	590	1800
JAN										
12...	1130	104000	600	7.4	.5	18	9.4	67	700	2700
MAR										
15...	1200	81100	440	8.1	2.0	18	9.4	69	120	K32
MAY										
17...	1030	263000	458	7.7	17.0	50	6.2	62	480	--
JUL										
11...	1000	222000	444	7.7	25.0	40	6.8	81	K300	84
SEP										
06...	1045	43400	500	8.4	24.5	15	9.2	107	K320	96

DATE	HARDNESS (MG/L AS CACO3) (00900)	HARDNESS, NONCARBONATE (MG/L CACO3) (00902)	CALCIUM DISSOLVED (MG/L AS CA) (00915)	MAGNESIUM, DISSOLVED (MG/L AS MG) (00925)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	PERCENT SODIUM (00932)	SODIUM ADSORPTION RATIO (00931)	POTASSIUM, DISSOLVED (MG/L AS K) (00935)	ALKALINITY FIELD (MG/L AS CACO3) (00410)	SULFATE DISSOLVED (MG/L AS SO4) (00945)
NOV										
17...	200	47	49	19	11	10	.3	3.2	154	38
JAN										
12...	260	67	64	25	17	12	.5	2.9	196	53
MAR										
15...	200	43	50	18	10	10	.3	2.4	156	31
MAY										
17...	200	60	50	19	9.3	9	.3	2.8	144	46
JUL										
11...	210	56	51	19	8.5	8	.3	2.9	150	41
SEP										
06...	230	52	54	24	16	13	.5	3.7	182	56

DATE	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)	FLUORIDE, DISSOLVED (MG/L AS F) (00950)	SILICA, DISSOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L) (70301)	SOLIDS, DISSOLVED (TONS PER AC-FT) (70303)	SOLIDS, DISSOLVED (TONS PER DAY) (70302)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N) (00631)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N) (00608)
NOV									
17...	15	.20	11	--	240	.33	59400	2.7	.110
JAN									
12...	30	.20	12	350	320	.48	98300	4.3	.250
MAR									
15...	17	.20	12	252	230	.34	55200	3.4	.160
MAY									
17...	17	.20	5.8	250	240	.34	178000	3.7	.060
JUL									
11...	14	.30	12	268	240	.36	161000	3.5	.090
SEP									
06...	23	.30	16	306	300	.42	35900	1.1	.030

K--Results based on colony count outside the acceptable range (non-ideal colony count).

05587550 MISSISSIPPI RIVER BELOW ALTON, IL--Continued

DATE	NITROGEN, AMMONIA DISSOLVED (MG/L AS NH4) (71846)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N) (00625)	PHOSPHORUS, TOTAL (MG/L AS P) (00665)	PHOSPHORUS TOTAL (MG/L AS PO4) (71886)	PHOSPHORUS, DISSOLVED (MG/L AS P) (00666)	PHOSPHORUS, ORTHO, DISSOLVED (MG/L AS P) (00671)	SEDIMENT, SUSPENDED (MG/L) (80154)	SEDIMENT, DISCHARGE, SUSPENDED (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. %FINER THAN .062 MM (70331)
NOV 17...	.14	1.8	.240	.74	.120	.120	--	--	--
JAN 12...	.32	1.5	.130	.40	.080	.100	92	25800	74
MAR 15...	.21	.90	.160	.49	.070	.050	74	16200	92
MAY 17...	.08	1.5	.130	.40	.070	.040	320	227000	85
JUL 11...	.12	1.5	.240	--	.130	.210	230	138000	92
SEP 06...	.04	1.6	.130	--	.040	.030	--	--	--

DATE	ALUMINUM, DISSOLVED (UG/L AS AL) (01106)	ARSENIC DISSOLVED (UG/L AS AS) (01000)	BARIUM, DISSOLVED (UG/L AS BA) (01005)	BERYLLIUM, DISSOLVED (UG/L AS BE) (01010)	CADMIUM DISSOLVED (UG/L AS CD) (01025)	CHROMIUM, DISSOLVED (UG/L AS CR) (01030)	COBALT, DISSOLVED (UG/L AS CO) (01035)	COPPER, DISSOLVED (UG/L AS CU) (01040)	IRON, DISSOLVED (UG/L AS FE) (01046)	LEAD, DISSOLVED (UG/L AS PB) (01049)
NOV 17...	40	1	64	<.5	<1	<1	<3	3	35	1
JAN 12...	20	2	66	<.5	<1	<1	<3	4	50	<1
MAY 17...	30	<1	75	3.0	1	<1	<3	7	36	<1
JUL 11...	30	1	81	1.0	1	<1	<3	9	12	<1

DATE	LITHIUM DISSOLVED (UG/L AS LI) (01130)	MANGANESE, DISSOLVED (UG/L AS MN) (01056)	MERCURY DISSOLVED (UG/L AS HG) (71890)	MOLYBDENUM, DISSOLVED (UG/L AS MO) (01060)	NICKEL, DISSOLVED (UG/L AS NI) (01065)	SELENIUM, DISSOLVED (UG/L AS SE) (01145)	SILVER, DISSOLVED (UG/L AS AG) (01075)	STRONTIUM, DISSOLVED (UG/L AS SR) (01080)	VANADIUM, DISSOLVED (UG/L AS V) (01085)	ZINC, DISSOLVED (UG/L AS ZN) (01090)
NOV 17...	22	5	<.1	<10	2	1	<1	130	<6	14
JAN 12...	12	35	<.1	<10	5	2	<1	150	<6	14
MAY 17...	14	15	<.1	<10	4	<1	<1	120	<6	19
JUL 11...	13	3	<.1	<10	<1	<1	<1	130	<6	52

TARKIO RIVER BASIN

06813000 TARKIO RIVER AT FAIRFAX, MO

LOCATION.--Lat 40°20'20", long 95°24'11", in SW¼SW¼ sec.22, T.64 N., R.40 W., Atchison County, Hydrologic Unit 10240005, in left bank on downstream side of bridge pier, 0.5 mi west of Fairfax, and 2 mi downstream from Cow Branch, and at mile 13.3.

DRAINAGE AREA.--508 mi².

PERIOD OF RECORD.--March 1922 to current year.

REVISED RECORDS.--WSP 856: 1937.

GAGE.--Water-stage recorder. Datum of gage is 867.66 ft National Geodetic Vertical Datum of 1929. Prior to October 1, 1931, nonrecording gage at site 50 ft downstream at datum 2.0 ft higher. October 1, 1931, to October 22, 1953, nonrecording gage at site 50 ft downstream at same datum.

REMARKS.--Records good. Several observations of water temperatures were made during the year.

AVERAGE DISCHARGE.--62 years, 205 ft³/s, 5.48 in/yr, 148,500 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 16,300 ft³/s June 20, 1942, from rating curve extended above 11,000 ft³/s; maximum gage height, 24.43 ft March 3, 1979; no flow on several days in July and August 1934, January 28 to February 10, 1977, February 6-12, 1979.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 4,800 ft³/s and maximum (*):

Date	Time	Discharge (ft³/s)	Gage height (ft)
Apr. 30	0615	*10,900	21.95
June 10	1015	8,980	23.08
June 13	0500	4,960	17.46
June 15	1545	8,670	22.70
June 23	1045	7,070	20.58
July 4	0800	6,230	19.40

Minimum discharge, 24 ft³/s Oct. 3.

DISCHARGE (CUBIC FEET/SECOND) WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	26	57	208	65	250	147	334	1690	474	384	141	47
2	26	60	230	70	300	145	794	1250	441	361	133	59
3	25	75	180	75	400	137	2490	1030	416	438	129	62
4	26	471	190	80	400	145	1150	877	386	3150	130	56
5	29	139	200	90	300	150	744	1020	495	850	127	51
6	29	98	150	100	250	131	594	798	707	508	112	48
7	28	89	100	95	200	130	520	722	480	414	105	44
8	28	85	120	95	155	125	977	638	1900	387	99	43
9	28	149	150	90	130	118	1310	595	2720	367	96	45
10	32	466	140	85	200	135	783	567	7120	340	89	47
11	56	213	150	80	350	156	660	544	1380	335	87	55
12	78	157	140	73	422	137	1630	504	1510	337	83	48
13	57	151	120	70	325	138	1020	572	3870	307	82	48
14	44	142	100	65	239	142	778	642	1430	290	82	48
15	39	130	90	65	219	169	678	456	7470	278	79	48
16	36	124	85	65	245	169	603	432	3390	265	78	46
17	34	121	80	60	233	191	527	415	1560	276	75	46
18	34	120	75	60	212	210	482	401	1870	256	75	46
19	42	122	70	60	361	178	448	2920	895	237	79	44
20	62	119	65	55	264	201	422	1940	790	220	78	43
21	69	119	70	55	222	212	1260	929	738	217	112	41
22	75	115	70	55	206	277	1770	2040	687	203	103	40
23	69	123	65	60	192	511	1000	1360	4240	189	81	41
24	56	134	65	65	179	559	750	838	824	182	75	42
25	50	127	60	70	169	471	633	1600	593	182	70	40
26	46	144	60	70	168	429	582	1150	532	178	66	40
27	45	220	65	75	160	909	703	758	513	184	62	47
28	44	618	65	80	146	588	569	713	475	178	57	50
29	42	352	60	100	134	478	3250	616	453	165	53	50
30	46	236	55	200	---	396	7330	552	414	156	49	51
31	54	---	60	300	---	358	---	510	---	147	48	---
TOTAL	1355	5276	3338	2628	7031	8242	34791	29079	48773	11981	2735	1416
MEAN	43.7	176	108	84.8	242	266	1160	938	1626	386	88.2	47.2
MAX	78	618	230	300	422	909	7330	2920	7470	3150	141	62
MIN	25	57	55	55	130	118	334	401	386	147	48	40

CAL YR 1983	TOTAL	110543	MEAN	303	MAX	5120	MIN	24
WTR YR 1984	TOTAL	156645	MEAN	428	MAX	7470	MIN	25

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06813500 MISSOURI RIVER AT RULO, NB

LOCATION.--Lat 40°03'13", long 95°25'19", in NW¼NW¼ sec.17, T.1 N., R.18 E., Richardson County, Hydrologic Unit 10240005, on right bank at downside side of bridge on U.S. Highway 159 at Rulo, 3.2 mi upstream from Big Nemaha River, and at mile 498.0.

DRAINAGE AREA.--414,900 mi², approximately. The 3,959 mi² in Great Divide basin are not included.

REVISED RECORDS.--WDR MO-76-1: Drainage area.

PERIOD RECORD.--October 1949 to current year in reports of Geological Survey. Gage-height record collected at site 80 ft upstream January 1886 to December 1899 published in reports of Missouri River Commission September 1929 to September 1950 in files of Kansas City office of Corps of Engineers.

GAGE.--Water-stage recorder. Datum of gage is 837.23 ft National Geodetic Vertical Datum of 1929. Oct. 1949 to Sept. 12, 1950, nonrecording gage at site 80 ft upstream and Sept. 13, 1950 to Apr. 19, 1983, recording gage on downstream end of middle pier, all at same datum.

REMARKS.--Records good except those for Dec. 17 to Feb. 5, which are poor. Flow regulated by upstream main-stem reservoirs. National Weather Service gage-height telemeter at station. Corps of Engineers gage-height satellite data collection platform at station.

AVERAGE DISCHARGE.--35 years, 40,930 ft³/s, 29,650,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 358,000 ft³/s Apr. 22, 1952, gage height, 25.60 ft; minimum daily, 4,420 ft³/s Jan. 13, 1957; minimum gage height, 0.65 ft Jan. 7, 1971, result of freeze-up.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in 1881 reached a stage of 22.9 ft from floodmark, discharge not determined.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 242,000 ft³/s June 16, gage height, 24.40 ft; minimum daily, 23,300 Dec. 24; minimum gage height not determined, occurred during period of no gage-height record Dec. 17 to Feb. 3.

DISCHARGE (CUBIC FEET/SECOND) WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	54200	46800	43200	34000	34000	50900	68600	123000	70500	136000	61300	55300
2	54500	46400	41700	33900	35000	49300	69700	116000	66600	125000	60000	55900
3	53700	47000	40700	33800	37000	48800	98300	111000	67400	115000	59000	56500
4	53100	50700	40200	33700	40000	48800	103000	111000	64300	116000	58600	55500
5	53600	50000	39000	33700	43000	50400	102000	110000	67000	110000	59000	54700
6	53700	48700	38800	33700	41000	53700	98200	110000	76400	96300	59400	55300
7	52800	48700	38400	33700	39400	52600	88900	110000	72400	84500	59900	55600
8	52000	48200	36000	33700	38400	50800	87100	109000	83200	75700	60000	56000
9	50100	49200	35000	33300	38600	49000	96400	112000	104000	68800	59400	55400
10	49600	52000	34100	32900	41200	44500	101000	112000	132000	66100	59400	55700
11	50500	52200	33900	32500	43800	44300	100000	104000	109000	65300	59400	55700
12	51600	50900	34500	32300	46300	46000	100000	97600	83600	65000	58600	55500
13	50900	49900	35000	32000	50200	47000	103000	92800	102000	65600	58300	56400
14	49500	48800	35200	31800	51800	46700	110000	88300	134000	66100	57600	56600
15	48300	49600	34000	31500	52200	48200	115000	82500	169000	66000	56800	56800
16	48300	49100	33900	31500	60100	53700	115000	76900	216000	67700	56300	57000
17	47500	49200	33000	31500	68200	56300	113000	71300	184000	70700	55600	57500
18	47800	49400	31800	31500	66000	53900	112000	68100	182000	71100	56100	58000
19	47900	50800	31400	31400	65500	52700	112000	77200	186000	71400	56100	56700
20	48700	50200	30000	30600	58100	53000	109000	107000	188000	70500	56400	57000
21	49600	51900	29500	30000	62600	51500	108000	103000	186000	69400	56400	56300
22	49200	52000	29300	29800	51500	52900	116000	96100	172000	69400	57500	56400
23	48400	51500	26800	30400	53200	58600	113000	93100	162000	67400	58000	56500
24	48300	52100	23300	31600	57400	68000	115000	91200	155000	65000	57500	56400
25	48500	52200	25500	32500	54500	76700	112000	85100	152000	63500	56900	56400
26	48000	50500	28400	33000	53300	75000	99900	90100	148000	62300	57300	56600
27	47500	51100	32000	33000	53100	86300	93400	84400	147000	63100	57500	56500
28	47300	54700	36000	33000	53300	88200	94900	78400	146000	65600	57100	55900
29	47100	49400	35200	33000	52500	82900	102000	72500	148000	64700	56300	54600
30	46800	45100	34500	33000	---	76600	132000	78800	145000	62600	55500	53900
31	46600	---	34000	33000	---	72900	---	71100	---	61500	55400	---
TOTAL	1545500	1498300	1054300	1005300	1441200	1789300	3088400	2925500	3918400	2387300	1792600	1683100
MEAN	49850	49940	34010	32430	49700	57720	102900	94370	130600	77010	57830	56100
MAX	54500	54700	43200	34000	68200	88200	132000	123000	216000	136000	61300	58000
MIN	46600	45100	23300	29800	34000	44300	68600	56100	64300	61500	55400	53900

CAL YR 1983	TOTAL	21352900	MEAN	58500	MAX	121000	MIN	23300
WTR YR 1984	TOTAL	24129200	MEAN	65930	MAX	216000	MIN	23300

06817700 NODAWAY RIVER NEAR GRAHAM, MO

LOCATION.--Lat 40°12'08", long 95°04'07", NE¼NE¼NE¼ sec.9, T.62 N., R.37 W., Holt County, Hydrologic Unit 10240010, at right downstream end of bridge on Highway A, 0.15 mi east of Maitland and 1.5 mi west of Graham.

DRAINAGE AREA.--1,380 mi², approximately.

PERIOD OF RECORD.--August 1982 to current year.

GAGE.--Water-stage recorder. Datum of gage is 852.09 ft National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 21,000 ft³/s June 15, 1984, gage height, 20.4 ft; minimum discharge, 52 ft³/s Sept. 30, 1983.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 21,000 ft³/s June 15, gage height, 20.4 ft; minimum, 41 ft³/s Sept. 30.

DISCHARGE (CUBIC FEET/SECOND) WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	54	79	570	170	550	610	1300	7280	1890	880	336	71
2	54	81	375	200	600	628	1950	4790	1650	1030	317	79
3	50	83	441	225	800	606	5910	4170	1490	1080	299	77
4	50	223	519	250	900	592	5120	3490	1360	5840	276	77
5	48	314	514	275	800	592	3300	3660	1930	2226	234	83
6	48	207	457	300	700	562	2410	3450	2940	1010	222	83
7	50	216	350	280	600	506	1910	2740	3850	869	219	83
8	52	170	400	275	500	469	2590	2440	7550	721	247	83
9	54	198	450	250	450	406	5740	2280	9310	642	238	88
10	54	844	400	240	600	383	4120	2110	14000	597	193	90
11	83	947	425	230	900	502	2990	2000	7480	562	187	92
12	147	610	400	210	2210	548	2700	1840	4720	536	184	92
13	153	410	375	200	3620	481	3560	3260	7160	506	181	98
14	136	350	350	180	3000	506	2780	3660	8570	477	170	96
15	118	307	300	170	1930	628	2290	1920	19100	469	156	91
16	99	286	250	160	2360	655	2020	1490	11600	598	144	80
17	83	286	225	150	2660	890	1790	1310	7830	1260	142	77
18	71	250	200	150	1760	969	1580	1190	6530	769	136	72
19	86	238	180	150	2890	789	1400	6340	4010	628	156	63
20	92	247	150	140	2480	769	1280	8530	2970	528	139	59
21	131	417	175	130	1590	824	2520	4370	2490	485	142	53
22	161	414	175	130	1270	1360	4950	5700	2960	460	201	53
23	147	350	160	140	1130	2510	4340	7550	6180	443	176	54
24	128	364	150	150	1040	2910	2950	3950	2530	388	158	55
25	111	490	140	175	926	2890	2300	7750	1670	416	142	51
26	101	324	140	175	874	2250	1920	7900	1430	357	118	45
27	92	492	150	180	809	3800	4190	4210	1310	386	111	50
28	83	1420	150	200	740	3640	3580	3580	1340	1010	111	53
29	77	1530	140	300	674	2500	6640	3110	1200	609	106	49
30	75	1050	130	400	---	1850	18300	2620	1040	445	99	43
31	77	---	140	600	---	1490	---	2180	---	379	86	--
TOTAL	2765	13197	8981	6785	39363	38115	108430	120870	148090	26600	5606	2140
MEAN	89.2	440	290	219	1357	1230	3614	3899	4936	858	181	71.3
MAX	161	1530	570	600	3620	3800	18300	8530	19100	5840	336	98
MIN	48	79	130	130	450	383	1280	1190	1040	357	86	43

CAL YR 1983	TOTAL	388756	MEAN	1065	MAX	6870	MIN	48
WTR YR 1984	TOTAL	520842	MEAN	1423	MAX	19100	MIN	43

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NODAWAY RIVER BASIN

06817800 NODAWAY RIVER NEAR OREGON, MO.

WATER-QUALITY RECORDS

LOCATION.--Lat 39°58'19", long 94°59'46", in SE¼ sec.36, T.60 N., R.37 W., Holt County, Hydrologic Unit 10240010, at bridge on U.S. Highway I-29, 7 mi east of Oregon.

PERIOD OF RECORD.--November 1968 to July 1975, July 1977 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	TIME	AGENCY ANALYZING SAMPLE (CODE NUMBER) (00028)	STREAMFLOW, INSTANTANEOUS (CFS) (00061)	SPECIFIC CONDUCTANCE (UMHOS) (00095)	PH (STANDARD UNITS) (00400)	TEMPERATURE (DEG C) (00010)	OXYGEN, DISSOLVED (MG/L) (00300)	OXYGEN, DISSOLVED (PERCENT SATURATION) (00301)	OXYGEN DEMAND, CHEMICAL (LOW LEVEL) (MG/L) (00335)	OXYGEN DEMAND, CHEMICAL (HIGH LEVEL) (MG/L) (00340)	COLIFORM, FECAL, 0.7 UM-MF (COLS./100 ML) (31625)
OCT											
12...	0815	29001	235	340	7.8	11.5	6.8	62	58	--	14000
NOV											
22...	1600	29001	370	418	8.0	9.0	10.4	91	49	--	5600
DEC											
14...	1600	29001	440	455	7.9	.5	13.0	91	12	--	330
JAN											
11...	1500	29001	1900	439	7.4	.5	13.4	92	29	--	310
FEB											
15...	1500	29001	1800	236	7.5	4.0	11.4	87	71	--	3000
MAR											
14...	1545	29001	450	417	8.1	6.0	12.6	101	14	--	70
APR											
11...	1600	29001	3200	323	7.8	9.0	8.6	75	43	--	4200
MAY											
15...	1625	29001	2350	282	7.8	18.5	8.0	84	110	--	11000
JUN											
14...	0800	29901	7860	250	7.4	23.0	6.0	69	310	--	49000
JUL											
25...	0800	80020	660	440	8.3	27.0	6.0	74	--	33	460
AUG											
22...	0800	80020	200	455	8.1	24.0	6.0	70	--	10	220
SEP											
19...	0800	80020	93	500	7.9	19.0	8.2	87	--	20	120

DATE	HARDNESS (MG/L AS CACO3) (00900)	HARDNESS, NONCARBONATE (MG/L CACO3) (00902)	CALCIUM DISSOLVED (MG/L AS CA) (00915)	MAGNESIUM, DISSOLVED (MG/L AS MG) (00925)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	POTASSIUM, DISSOLVED (MG/L AS K) (00935)	ALKALINITY FIELD (MG/L AS CACO3) (00410)	CARBON DIOXIDE DISSOLVED (MG/L AS CO2) (00405)	SULFATE DISSOLVED (MG/L AS SO4) (00945)	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)
OCT										
12...	160	37	44	13	12	3.9	127	3.9	34	13
NOV										
22...	--	--	--	--	--	--	145	2.8	--	--
DEC										
14...	--	--	--	--	--	--	163	4.0	--	--
JAN										
11...	--	--	--	13	12	3.2	178	14	44	13
FEB										
15...	--	--	--	--	--	--	88	5.4	--	--
MAR										
14...	--	--	--	--	--	--	152	2.3	--	--
APR										
11...	150	48	40	11	9.1	3.6	97	3.0	28	8.0
MAY										
15...	--	--	--	--	--	--	101	3.1	--	--
JUN										
14...	--	--	--	--	--	--	73	5.6	--	--
JUL										
25...	200	45	56	14	10	2.8	153	1.5	27	10
AUG										
22...	--	--	--	--	--	--	182	2.8	--	--
SEP										
19...	--	--	--	--	--	--	203	4.9	--	--

06817800 NODAWAY RIVER NEAR OREGON, MO--Continued

DATE	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L) (00530)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	PHOS-PHORUS, TOTAL (MG/L AS P) (00665)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD) (01027)	CADMIUM DIS-SOLVED (UG/L AS CD) (01025)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)
OCT										
12...	.30	220	220	.92	.190	.190	<2	<2	11	5
NOV										
22...	--	--	340	3.5	.110	.390	--	--	--	--
DEC										
14...	--	--	30	4.8	.180	.130	--	--	--	--
JAN										
11...	.40	303	21	3.6	.290	.130	<2	<2	<5	5
FEB										
15...	--	--	1080	3.6	.530	.780	--	--	--	--
MAR										
14...	--	--	136	3.6	.070	.230	--	--	--	--
APR										
11...	.20	226	912	5.2	.090	.720	<2	<2	22	<5
MAY										
15...	--	--	2950	3.5	.220	.390	--	--	--	--
JUN										
14...	--	--	4280	3.4	.180	1.50	--	--	--	--
JUL										
25...	.40	256	213	3.7	.040	.440	<1	<1	8	2
AUG										
22...	--	--	50	.40	.010	.200	--	--	--	--
SEP										
19...	--	--	29	.10	.010	.120	--	--	--	--

DATE	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB) (01051)	LEAD DIS-SOLVED (UG/L AS PB) (01049)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG) (71900)	MERCURY DIS-SOLVED (UG/L AS HG) (71890)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN) (01092)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)
OCT										
12...	1200	50	9	<5	1200	140	<.2	.2	40	18
NOV										
22...	--	--	--	--	--	--	--	--	--	--
DEC										
14...	--	--	--	--	--	--	--	--	--	--
JAN										
11...	910	<20	<5	<5	130	100	<.2	<.2	30	10
FEB										
15...	--	--	--	--	--	--	--	--	--	--
MAR										
14...	--	--	--	--	--	--	--	--	--	--
APR										
11...	25000	70	16	<5	810	<20	<.2	.2	90	<10
MAY										
15...	--	--	--	--	--	--	--	--	--	--
JUN										
14...	--	--	--	--	--	--	--	--	--	--
JUL										
25...	6200	5	3	<1	420	28	.1	<.1	20	9
AUG										
22...	--	--	--	--	--	--	--	--	--	--
SEP										
19...	--	--	--	--	--	--	--	--	--	--

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06818000 MISSOURI RIVER AT ST. JOSEPH, MO

LOCATION.--Lat 39°45'12", long 94°51'28", in NW¼SW¼ sec.17, T.57 N., R.35 W., Buchanan County, Hydrologic Unit 10240011, on left bank at left abutment of St. Joseph and Grand Island Railroad bridge in St. Joseph. River mile 448.2.

DRAINAGE AREA.--420,300 mi², approximately.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--August 1928 to current year. Gage-height records collected in vicinity 1873-99 are contained in reports of Missouri River Commission; since 1900 in reports of National Weather Service.

REVISED RECORDS.--WDR MO-76-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 788.19 ft National Geodetic Vertical Datum of 1929. Prior to Oct. 21, 1931, nonrecording gage and Oct. 21, 1931, to Dec. 31, 1933, water-stage recorder at same site at datum 5.50 ft higher.

REMARKS.--Records good. Discharge measurements made weekly except during ice-flow periods. Some regulation from many upstream reservoirs.

AVERAGE DISCHARGE.--56 years, 40,770 ft³/s, 29,500,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 397,000 ft³/s Apr. 22, 23, 1952, gage height, 26.82 ft; minimum, 2,300 ft³/s Jan. 9, 1937.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of April 29, 1881 reached a stage of 27.2 ft, present datum, discharge, about 370,000 ft³/s, computed by Corps of Engineers.

Flood of June 1844 reached a stage of 24.5 ft discharge, about 370,000 ft³/s, computed by Corps of Engineers.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 198,000 ft³/s June 16, gage height, 25.86 ft; minimum daily, 20,500 ft³/s Dec. 31.

DISCHARGE (CUBIC FEET/SECOND) WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	55100	48600	47500	21000	42000	55200	72100	150000	76100	147000	64700	58800
2	56400	49100	47000	21500	43000	52500	71000	133000	72000	142000	64200	59100
3	56300	49500	46100	22000	45000	51300	111000	122000	72800	136000	63200	60600
4	55900	52400	45800	22500	50000	50900	129000	117000	72300	142000	62900	60000
5	55800	54900	44700	23000	49000	51400	118000	115000	70800	144000	63600	59400
6	56000	53700	43100	24000	48000	52900	113000	114000	80300	127000	64000	59200
7	55200	54300	43000	26000	46000	53800	103000	111000	83500	111000	64900	59200
8	54300	55000	41500	29000	48000	51700	97400	110000	120000	98000	62900	59200
9	52500	55300	39700	33000	49000	49900	107000	112000	180000	88500	63600	59800
10	51200	58600	38400	36000	50000	46500	112000	117000	190000	82100	63300	59800
11	52400	58900	37600	40000	50100	44400	111000	113000	150000	80000	63600	59900
12	53400	55900	38200	41000	49300	45700	111000	105000	121000	80000	63200	59600
13	53000	53900	38600	41000	54000	48300	113000	98800	121000	80000	62100	60000
14	51500	53100	39100	40000	58800	48700	119000	98200	144000	80000	61800	60200
15	49600	52700	39200	38000	58100	50600	124000	89700	178000	80000	61300	59900
16	49400	52100	37200	36000	66700	55600	126000	81300	195000	80000	60900	59600
17	48100	51400	37500	35000	79900	63400	123000	75800	185000	79000	60000	60000
18	47300	51600	37000	34000	78400	61200	119000	69500	191000	78000	60300	60300
19	47600	52500	33000	33000	78100	56800	119000	72500	193000	76700	60600	59700
20	48800	53000	32000	33000	70500	56700	117000	120000	193000	75700	60200	58800
21	50800	53300	36000	33000	62300	56500	117000	117000	193000	73700	59900	58000
22	50900	54700	35000	33000	59300	59900	130000	102000	188000	72500	59900	57900
23	50400	55100	33600	32000	60800	65800	127000	111000	180000	71600	60500	58400
24	50000	55000	32000	32000	64600	74000	124000	108000	171000	68400	59800	59200
25	50500	55200	33000	33000	64900	88400	124000	103000	159000	67200	58200	60000
26	49900	54400	30000	34000	60700	84400	112000	119000	153000	76100	58000	60200
27	49800	55100	26000	35000	59500	94700	103000	109000	149000	66500	58600	60400
28	49500	61500	23000	36000	58800	99500	103000	96800	149000	68600	59100	60600
29	49300	56800	22000	38600	57200	93200	103000	89500	150000	70000	58600	59200
30	50000	50300	21000	40000	---	80600	149000	85000	151000	67100	57800	58600
31	49500	---	20500	41000	---	75500	---	82300	---	65100	58000	---
TOTAL	1600400	1617900	1118700	1016000	1662000	1920000	3407500	3247400	4341800	2763200	1899700	1785600
MEAN	51630	53930	36090	32770	57210	61940	113600	104800	144700	89140	61280	59520
MAX	56400	61500	47500	41000	79900	99500	149000	150000	195000	147000	64900	60600
MIN	47300	48600	20500	21000	42000	44400	71000	69500	70800	65100	57800	57900

CAL YR 1983	TOTAL 23956700	MEAN	65630	MAX	141000	MIN	20500
WTR YR 1984	TOTAL 26380200	MEAN	72080	MAX	195000	MIN	20500

06818000 MISSOURI RIVER AT ST. JOSEPH, MO.--Continued

WATER-QUALITY RECORDS
(National stream-quality accounting network station)

PERIOD OF RECORD.--Water year 1969 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS) (00061)	SPECIFIC CONDUCTANCE (UMHOS) (00095)	PH (STANDARD UNITS) (00400)	TEMPERATURE (DEG C) (00010)	TURBIDITY (NTU) (00076)	OXYGEN, DISSOLVED (MG/L) (00300)	OXYGEN, DISSOLVED (PERCENT SATURATION) (00301)	COLIFORM, FECAL, 0.7 UM-MF (COLS./100 ML) (31625)	STREPTOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)
OCT 12...	1015	53800	739	8.3	15.0	31	8.6	84	5700	9100
NOV 22...	1420	55600	704	8.2	8.5	32	10.0	86	15000	19000
DEC 14...	1400	39100	830	8.2	.5	15	12.8	90	5300	2100
JAN 11...	1400	40000	770	7.8	.5	6.6	12.6	87	2600	3800
FEB 15...	1330	57500	619	7.8	4.0	160	11.8	90	2800	27000
MAR 14...	1400	48400	750	8.1	2.5	32	13.6	99	4800	1400
APR 11...	1400	111000	619	7.9	9.0	200	8.2	71	10000	12000
MAY 16...	0800	82700	750	8.2	18.0	15	7.9	82	1200	650
JUN 13...	1430	126000	580	7.8	24.6	260	5.0	59	35000	23000
JUL 25...	1000	67800	815	8.2	27.0	55	5.6	69	1000	450
AUG 22...	1045	60000	826	8.3	25.5	22	6.4	77	2900	460
SEP 19...	1030	59500	820	8.2	19.5	24	9.1	98	960	360

DATE	HARDNESS (MG/L AS CACO3) (00900)	HARDNESS, NONCARBONATE (MG/L CACO3) (00902)	CALCIUM DISSOLVED (MG/L AS CA) (00915)	MAGNESIUM, DISSOLVED (MG/L AS MG) (00925)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	PERCENT SODIUM (00932)	SODIUM ADSORPTION RATIO (00931)	POTASSIUM, DISSOLVED (MG/L AS K) (00935)	ALKALINITY FIELD (MG/L AS CACO3) (00410)	SULFATE DISSOLVED (MG/L AS SO4) (00945)
OCT 12...	260	100	65	24	71	37	2	5.4	160	200
NOV 22...	260	88	67	23	59	32	2	5.3	175	180
DEC 14...	290	93	74	26	66	32	2	5.4	199	190
JAN 11..	280	95	73	24	68	34	2	6.4	187	190
FEB 15...	236	63	60	19	46	30	1	6.8	165	140
MAR 14...	270	87	71	23	56	30	2	5.9	185	180
APR 11...	260	97	66	22	28	19	.8	7.4	159	120
MAY 16...	310	110	78	27	39	21	1	7.5	198	190
JUN 13...	230	71	61	18	30	22	.9	6.2	156	110
JUL 25...	300	110	75	26	59	30	2	6.3	182	200
AUG 22...	270	90	67	24	73	37	2	5.9	176	220
SEP 19...	240	71	58	23	72	39	2	7.0	169	220

06818000 MISSOURI RIVER AT ST. JOSEPH, MO--Continued

DATE	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)	FLUORIDE, DISSOLVED (MG/L AS F) (00950)	SILICA, DISSOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L) (70301)	SOLIDS, DISSOLVED (TONS PER AC-FT) (70303)	SOLIDS, DISSOLVED (TONS PER DAY) (70302)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N) (00631)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N) (00608)
OCT 12...	18	.50	11	450	490	.61	65400	.52	.040
NOV 22...	17	.50	12	476	470	.65	71500	1.2	.150
DEC 14...	22	.50	14	540	520	.73	57000	1.6	.150
JAN 11...	26	.40	15	540	520	.73	58300	1.3	.200
FEB 15...	19	.40	16	404	410	.55	62700	1.9	.540
MAR 14...	20	.50	16	499	480	.68	65200	1.8	.120
APR 11...	14	.30	14	383	370	.52	115000	3.6	.140
MAY 16...	19	.40	12	472	490	.64	105000	3.2	.080
JUN 13...	12	.40	13	370	340	.50	126000	4.0	.050
JUL 25...	16	.50	11	548	500	.75	100000	1.4	.080
AUG 22...	19	.50	8.6	531	520	.72	86000	.68	<.010
SEP 19...	17	.50	8.6	523	510	.71	84000	.30	.030

DATE	NITROGEN, AMMONIA DISSOLVED (MG/L AS NH4) (71846)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N) (00625)	PHOSPHORUS, TOTAL (MG/L AS P) (00665)	PHOSPHORUS TOTAL (MG/L AS PO4) (71886)	PHOSPHORUS, DISSOLVED (MG/L AS P) (00666)	PHOSPHORUS, ORTHO, DISSOLVED (MG/L AS P) (00671)	SEDIMENT, SUSPENDED (MG/L) (80154)	SEDIMENT, DISCHARGE, SUSPENDED (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
OCT 12...	.05	1.2	.180	.55	.030	.050	194	28200	88
NOV 22...	.19	2.0	.380	1.2	.130	.100	352	52800	66
DEC 14...	.19	.70	.150	.46	.060	.070	534	56400	12
JAN 11...	.26	.70	.100	.31	.070	.080	93	10000	83
FEB 15...	.70	2.0	.640	2.0	.080	.060	337	52300	87
MAR 14...	.15	1.1	.170	.52	.070	.070	149	19500	93
APR 11...	.18	3.5	1.70	5.2	.110	.090	1760	527000	76
MAY 16...	.10	1.5	.190	.58	.110	.060	790	176000	54
JUN 13...	.06	6.5	.900	--	.210	.110	3670	1250000	95
JUL 25...	.10	1.3	.330	--	.100	.080	464	84900	67
AUG 22...	--	.70	.140	--	.050	.050	134	21700	83
SEP 19...	.04	.60	.120	--	.040	.020	134	21500	87

06818000 MISSOURI RIVER AT ST. JOSEPH, MO--Continued

DATE	ALUMINUM, DISSOLVED (UG/L AS AL) (01106)	ARSENIC DISSOLVED (UG/L AS AS) (01000)	BARIUM, DISSOLVED (UG/L AS BA) (01005)	BERYLLIUM, DISSOLVED (UG/L AS BE) (01010)	CADMIUM DISSOLVED (UG/L AS CD) (01025)	CHROMIUM, DISSOLVED (UG/L AS CR) (01030)	COBALT, DISSOLVED (UG/L AS CO) (01035)	COPPER, DISSOLVED (UG/L AS CU) (01040)	IRON, DISSOLVED (UG/L AS FE) (01046)	LEAD, DISSOLVED (UG/L AS PB) (01049)
NOV 22...	<10	2	77	<.5	<1	<1	<3	3	17	1
JAN 11...	<10	2	91	<.5	<1	<1	<3	3	9	<1
MAY 16...	30	2	140	1.0	2	<1	<3	3	27	2
JUL 25...	20	2	130	<1.0	<1	<1	<3	3	9	<1

DATE	LITHIUM DISSOLVED (UG/L AS LI) (01130)	MANGANESE, DISSOLVED (UG/L AS MN) (01056)	MERCURY DISSOLVED (UG/L AS HG) (71890)	MOLYBDENUM, DISSOLVED (UG/L AS MO) (01060)	NICKEL, DISSOLVED (UG/L AS NI) (01065)	SELENIUM, DISSOLVED (UG/L AS SE) (01145)	SILVER, DISSOLVED (UG/L AS AG) (01075)	STRONTIUM, DISSOLVED (UG/L AS SR) (01080)	VANADIUM, DISSOLVED (UG/L AS V) (01085)	ZINC, DISSOLVED (UG/L AS ZN) (01090)
NOV 22...	49	14	<.1	<10	3	2	<1	520	<6	31
JAN 11...	46	12	<.1	<10	3	2	<1	550	<6	16
MAY 16...	38	5	<.1	<10	4	3	<1	470	<6	14
JUL 25...	53	3	.1	<10	8	3	<1	530	<6	14

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06819500 ONE HUNDRED AND TWO RIVER AT MARYVILLE, MO

LOCATION.--Lat 40°20'45", long 94°49'56", in SW¼SW¼ sec.15, T.64 N., R.35 W., Nodaway County, Hydrologic Unit 10240013, on right bank at intake for city waterworks, just upstream from City Waterworks dam, 150 ft upstream from bridge on U.S. Highway 136, 0.3 mi downstream from Thill Branch, 1 mi east of Meryville and at mile 64.0.

DRAINAGE AREA.--515 mi^2.

PERIOD OF RECORD.--October 1932 to current year. April to June 1934 monthly discharge only, published in WSP 1310. June 1934 to October 1971, published as "near Maryville".

GAGE.--Water-stage recorder. Datum of gage is 964.65 ft National Geodetic Vertical Datum of 1929. Nonrecording gage prior to September 15, 1958. Prior to June 20, 1934, at present site and datum. June 20, 1934, to October 31, 1971, at site 3 mi upstream at datum 5.68 ft higher.

REMARKS.--Records fair. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--52 years, 232 ft^3/s, 6.30 in/yr, 168,100 acre-ft /yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 28,000 ft^3/s October 12, 1973, gage height, 19.25 ft; no flow at times in several years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Sept. 16, 1926, reached a stage of 15 ft , present site, from floodmark; discharge, 14,500 ft^3/s.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 7,500 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)
Apr. 3	1130	7,670	12.48
Apr. 30	0800	11,400	15.15
May 20	0115	10,400	14.35
May 22	1930	9,670	13.92
June 10	0430	7,940	12.69
June 15	2015	*15,500	16.40

Minimum discharge, 2.1 ft^3/s September 26, 27.

DISCHARGE (CUBIC FEET/SECOND) WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	7.3	201	36	407	119	515	1390	349	275	18	7.0
2	11	11	211	37	478	112	2570	1040	299	244	18	9.4
3	7.3	11	146	40	746	105	5920	883	266	250	18	10
4	8.9	316	161	44	784	114	2070	767	236	577	16	9.0
5	9.5	205	169	45	384	141	1090	1176	224	394	14	5.0
6	9.5	69	76	50	329	95	775	724	216	256	14	3.5
7	8.9	29	61	49	170	141	611	591	353	186	14	4.1
8	9.5	20	99	48	155	138	1960	477	1100	154	25	8.1
9	9.5	74	99	47	140	92	2240	402	2860	134	15	7.6
10	9.5	1580	88	46	308	169	1110	355	5560	116	11	9.1
11	20	698	91	45	613	220	822	318	1200	103	10	14
12	30	170	86	45	717	143	783	280	1770	86	10	10
13	25	106	76	45	548	136	725	1700	2460	76	9.6	11
14	20	112	57	45	256	164	653	1270	1390	65	9.0	10
15	18	99	45	45	473	243	634	455	12900	57	8.5	7.2
16	16	61	42	45	506	301	535	275	5160	52	7.5	5.1
17	14	53	40	45	585	317	430	217	2050	50	7.3	4.5
18	12	53	38	45	460	447	339	222	2300	43	8.1	4.4
19	12	61	35	45	1720	309	278	5170	1120	37	8.7	5.0
20	14	318	35	41	749	320	268	5720	854	33	7.5	5.1
21	32	142	35	31	487	466	3140	1340	741	32	11	3.8
22	28	85	35	28	367	873	3280	4660	661	31	26	3.7
23	22	96	35	31	308	2080	1270	2930	806	29	14	3.4
24	19	162	35	41	265	2470	791	1040	502	28	9.5	5.1
25	14	150	35	45	210	1650	581	1320	439	72	12	3.9
26	13	293	35	43	192	1500	467	1320	393	32	9.5	2.4
27	13	667	35	43	171	3040	4110	717	555	36	7.5	2.7
28	13	2640	35	43	132	1400	1340	798	519	29	5.7	3.9
29	10	881	35	134	100	1010	3220	658	408	25	5.6	3.3
30	10	367	35	487	---	717	7120	481	338	21	4.8	3.0
31	8.9	---	35	517	---	591	---	406	---	20	4.5	---
TOTAL	457.5	9536.3	2241	2331	12760	19623	49647	39096	48020	3543	359.3	184.4
MEAN	14.8	318	72.3	75.2	440	633	1655	1261	1601	114	11.6	6.15
MAX	32	2640	211	517	1720	3040	7120	5720	12900	577	26	14
MIN	7.3	7.3	35	28	100	92	268	217	216	20	4.5	2.4

CAL YR 1983	TOTAL 184543.6	MEAN	506	MAX	6140	MIN	3.2
WTR YR 1984	TOTAL 187798.5	MEAN	513	MAX	12900	MIN	2.4

06820500 PLATTE RIVER NEAR AGENCY, MO

LOCATION.--Lat 39°41'19", long 94°42'15", in NE¼NW¼ sec.10, T.56 N., R.34 W., Buchanan County, Hydrologic Unit 10240012, on left bank 10 ft downstream from bridge of U.S. Highway 169, 1.5 mi downstream from Third Fork, 3.5 mi northeast of Agency, and at mile 66.8.

DRAINAGE AREA.--1,760 mi², approximately.

PERIOD OF RECORD.--May 1924 to August 1930 (published as "at Agency"), May 1932 to current year.

GAGE.--Water-stage recorder. Datum of gage is 807.38 ft above National Geodetic Vertical Datum of 1929. May 22, 1924 to Aug. 9, 1930, nonrecording gage at site 4 mi downstream at different datum. May 13, 1932, to Nov. 14, 1965, nonrecording gage at same site and datum.

REMARKS.--Records poor. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--57 years (1924-29, 1932-84), 934 ft³/s, 7.21 in/yr, 676,700 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 53,000 ft³/s from loop rating, July 20, 1965, gage height, 35.05 ft; no flow at times in July and August 1934 and October 1956.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 7,000 ft³/s and maximum (*):

Date	Time	Discharge (ft³/s)	Gage height (ft)	Date	Time	Discharge (ft³/s)	Gage height (ft)
Mar. 25	0500	7,940	19.15	June 8	1445	*33,900	28.60
Apr. 4	0930	10,700	21.99	June 10	1130	unknown	28.65
Apr. 23	0230	10,000	20.87	June 16	1415	25,200	27.79
May 1	0230	12,200	22.15	July 5	0200	12,900	23.08
May 21	0930	11,200	21.81				

Minimum daily discharge, 25 ft³/s Oct. 3, 5-7.

DISCHARGE (CUBIC FEET/SECOND) WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	28	32	896	130	1200	466	1090	11600	853	657	204	34
2	26	50	631	130	1300	431	1080	8240	749	592	182	32
3	25	103	539	140	1200	442	5670	2810	754	545	168	33
4	28	485	410	150	1350	478	10400	2300	723	7090	156	36
5	25	168	474	175	1400	524	6470	2110	691	10500	146	32
6	25	385	397	200	1500	492	2260	2870	612	2340	134	39
7	25	317	300	250	1200	473	1580	2050	1960	1030	121	35
8	26	207	242	300	1900	424	2830	1540	24900	817	113	49
9	28	188	200	350	800	402	5790	1580	28700	686	128	56
10	30	604	250	375	750	366	4710	1160	31500	594	114	53
11	48	1750	280	335	738	396	2400	1010	23200	866	108	144
12	81	1340	350	290	1170	442	2520	896	14000	549	93	99
13	62	718	300	250	2120	458	1940	966	7740	469	84	73
14	54	513	245	230	1800	426	1550	2540	5140	431	76	105
15	47	395	200	220	1160	1050	1340	1930	11900	407	72	92
16	45	302	160	180	1050	1280	1300	1090	22700	386	69	75
17	39	310	140	160	1140	2660	1170	953	22900	460	68	60
18	39	274	120	140	1160	2660	1049	842	18700	441	63	55
19	52	226	100	120	1370	1870	909	789	10600	398	64	47
20	72	191	115	110	3140	1500	686	7380	3850	366	58	41
21	197	222	125	110	1590	1950	1770	10500	2160	340	58	36
22	334	447	110	115	1060	4940	8330	6120	1910	318	66	35
23	154	402	100	120	932	4260	9010	6940	1510	293	56	35
24	99	377	90	130	842	5570	3850	7400	1780	276	55	35
25	79	364	95	140	719	6910	1910	2480	1070	260	73	31
26	67	402	120	180	650	4380	1390	3150	893	300	66	32
27	54	656	130	250	669	6570	1480	4010	788	395	55	37
28	50	2600	120	300	606	5850	5800	2110	724	293	52	48
29	62	4230	110	500	520	2710	4230	1570	837	349	49	40
30	90	1840	110	750	---	1730	9630	1510	695	302	33	38
31	55	---	120	1000	---	1260	---	1100	---	235	33	---
TOTAL	2046	20098	7579	7830	34136	63370	104135	101546	244539	32985	2817	1557
MEAN	66.0	670	244	253	1177	2044	3471	3276	8151	1064	90.9	51.9
MAX	334	4230	896	1000	3140	6910	10400	11600	31500	10500	204	144
MIN	25	32	90	110	520	366	686	789	612	235	33	31

CAL YR 1983	TOTAL 386165	MEAN	1058	MAX	10800	MIN	25
WTR YR 1984	TOTAL 622638	MEAN	1701	MAX	31500	MIN	25

06821140 SMITHVILLE RESERVOIR NEAR SMITHVILLE, MO

LOCATION.--Lat 39°23'50", long 94°33'25", SW¼ sec.13, T.53 N., R.33 W., Clay County Hydrologic Unit 10240012, in control tower at outlet works on the Little Platte River, and 1.0 mi northeast of Smithville and 5.0 mi north of Kansas City.

DRAINAGE AREA.--213 mi^2.

PERIOD OF RECORD.--July 1981 to current year. Records collected at same site since 1976 and are available from Corps of Engineers.

GAGE.--Water-stage recorder. Datum of gage is at National Geodetic Veritcal Datum of 1929.

REMARKS.--Lake is formed by a rolled earthfill type dam. Storage began on July 13, 1976. An uncontrolled limited service type spillway, 50 ft wide, is located at the right abutment. Capacity of surcharge pool (elevations 876.2 ft to 891.1 ft), 182,209 acre-ft; of flood control pool (elevations 864.2 ft to 876.2 ft), 101,800 acre-ft; and of multipurpose pool (elevation 799.0 ft to 864.2 ft), 144,600 acre-ft. Lake is used for flood control, water supply, water quality control, recreation, and fish and wildlife enhancement.

COOPERATION.--Records furnished by Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 184,400 acre-ft Apr. 16, 1983, elevation 869.37 ft; minimum, 2,360 acre-ft Jan. 13, 1980, elevation, 819.0 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents 184,500 acre-ft Apr. 14-16, elevation, 869.39 ft; minimum 136,700 acre-ft Oct. 18, elevation 863.08 ft.

RESERVOIR STORAGE (AC-FT), WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984
INSTANTANEOUS OBSERVATIONS AT 0800

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	138000	137600	141400	142700	143100	145600	166700	176000	146300	155000	148400	142000
2	137800	137700	141400	142800	143100	145600	166600	176500	146300	153200	148000	141900
3	137700	137600	141500	143100	143100	145600	168400	177000	145800	152300	147500	141800
4	137700	139200	141700	143100	143100	146000	170000	177200	145600	162400	147100	141500
5	137500	139000	141800	143100	143100	146500	170800	177000	144900	176300	146600	141400
6	137500	139000	141700	143100	143100	146100	171000	174500	144800	177000	146100	141100
7	137400	139000	141700	143100	143100	146100	171500	171000	146200	177000	145600	140800
8	137400	139000	141700	143100	143100	146100	173200	167400	147700	176900	145300	141000
9	137200	139100	141700	143100	143100	146000	175800	163700	153800	176800	145000	141000
10	137000	139500	142300	143100	143800	146100	176600	160000	157000	175800	145000	141100
11	136900	139200	141800	143100	143100	146100	177100	156700	157600	174100	144500	141000
12	137300	139000	141800	143100	143100	146200	182100	153100	157600	172200	144500	140800
13	137100	138900	141800	143800	143100	146100	184100	149400	157900	170300	144300	140400
14	137000	139900	141100	143800	143700	146300	184500	146600	157900	168300	144200	141000
15	136900	138900	142300	143800	144000	146900	184500	145200	160400	166600	144000	140800
16	137000	138800	142400	143600	144100	147900	184500	144800	165300	164500	144000	140600
17	136900	138800	142400	143600	144500	150400	184000	144400	165700	162600	143900	140500
18	136700	138800	142400	142400	144600	152400	182500	144400	166000	160500	144000	140800
19	137400	139600	142400	142400	144800	154600	180900	144400	166000	158400	143800	140800
20	137600	139000	142400	142300	145000	154000	179200	144600	166000	156400	143600	140700
21	137800	139000	142400	142400	145800	155300	179200	144800	166000	155100	143400	140600
22	137700	139000	142400	142400	145200	157200	178600	146000	166400	154100	143500	140400
23	137700	139600	142400	142400	145300	157900	177300	145300	166700	153000	143300	140400
24	137700	139500	142400	142500	145300	159100	176700	145400	166600	152500	143100	140300
25	137700	139300	142400	142500	145300	160100	176400	145700	166600	152000	142900	140300
26	137600	139400	142400	142700	145300	161200	175100	145500	165600	151600	142800	139900
27	137600	140200	142400	142800	145300	163100	172800	145500	163500	151000	142600	139700
28	137500	141300	142400	142900	145800	164100	169600	148300	161400	150500	142600	139600
29	137700	141500	142400	143100	145600	164200	167300	148300	159500	149700	142500	139400
30	137700	141500	142400	143300	---	164500	174500	147700	157200	149400	142500	139200
31	137600	---	142500	143400	---	165500	---	146700	---	148800	142200	---
WTR YR 1984												
(†)	863.21	863.77	863.92	864.04	864.34	867.00	868.16	864.50	865.92	864.79	863.87	863.45
(‡)	-500	+3900	+1000	+900	+2200	+19900	+9000	-27800	+10500	-8400	-6600	-3000
MAX	138000	141500	142500	143800	145800	165500	184500	177200	166700	177000	148400	142000
MIN	136700	137600	141100	142300	143100	145600	166600	144400	144800	146800	142200	139200

CAL YR 1983..................(‡) -19800
WTR YR 1984.................(‡) +1100

(†) Elevation, in feet NGVD, at end of month.
(‡) Change in contents, in acre-feet.

06821150 LITTLE PLATTE RIVER AT SMITHVILLE, MO

LOCATION.--Lat 39°23'17", long 94°34'44", in NW¼SW¼ sec.23, T.53 N., R.33 W., Clay County, Hydrologic Unit 10240012, on left bank behind city equipment shelter on old bridge abutment, 500 ft upstream from town bridge in Smithville, 1,500 ft upstream from bridge on U.S. Highway 159, 0.5 mi downstream from Wilkerson Creek, 2.4 mile downstream from Smithville Lake and at mile 11.1.

DRAINAGE AREA.--243 mi².

PERIOD OF RECORD.--June 1965 to current year. Occasional measurements 1942, 1943, 1946, 1962-65.

GAGE.--Water-stage recorder. Datum of gage is 778.18 ft National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers). Prior to Mar. 23, 1966, nonrecording gage at site 1,500 ft downstream at same datum.

REMARKS.--Records fair. Construction of dam for Smithville Lake began in June 1974 and partial regulation began Aug. 6, 1977. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--19 years, 208 ft³/s, 9.34 in/yr, 116,600 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 76,600 ft³/s, slope-area measurement of peak flow, July 20, 1965, gage height, 44.8 ft from floodmark; no flow at times in many years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of 1947 reached a stage of 37.4 ft.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,310 ft³/s July 4, gage height, 27.11 ft; minimum 0.79 ft³/s Sept. 12, 13.

DISCHARGE (CUBIC FEET/SECOND) WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	13	13	14	14	17	240	58	203	1080	180	10
2	11	11	13	14	14	17	285	39	198	730	180	11
3	11	46	15	14	14	17	281	32	198	187	180	10
4	11	25	17	15	14	26	152	176	193	1370	180	10
5	11	12	17	15	13	19	31	1650	113	44	180	10
6	11	12	15	18	12	17	23	1920	34	16	180	10
7	11	12	17	20	13	16	28	2160	102	12	180	9.8
8	10	13	17	19	13	15	504	2140	194	99	114	11
9	10	16	17	17	12	14	106	2120	235	388	57	11
10	10	22	16	14	13	19	55	2110	463	844	57	11
11	13	18	15	12	14	24	65	2100	421	1070	40	9.9
12	10	15	14	12	14	28	1030	2096	268	1070	6.9	.98
13	10	14	11	12	14	32	147	1880	129	1060	2.2	.81
14	10	12	8.3	11	13	45	310	1150	19	1060	2.0	4.0
15	11	12	8.7	11	13	61	296	353	414	1060	1.9	2.4
16	12	12	8.7	12	16	60	403	202	31	1060	1.8	1.2
17	12	13	8.7	11	17	193	720	138	25	1060	1.6	1.7
18	12	14	9.0	11	19	172	1110	71	118	1050	1.6	1.3
19	18	15	9.4	9.9	19	499	1110	93	155	1050	1.6	12
20	18	15	9.5	10	17	135	1010	142	74	810	5.7	55
21	13	15	10	10	16	179	657	551	25	538	12	33
22	14	25	11	10	15	83	1190	483	17	536	11	7.7
23	14	21	11	10	15	47	639	198	9.9	408	11	7.7
24	14	14	12	10	15	133	609	195	7.5	185	11	7.7
25	14	12	12	9.8	15	62	633	195	299	184	11	7.7
26	14	12	13	12	16	191	1550	194	862	183	11	7.4
27	14	158	14	15	22	129	1490	88	1100	182	11	7.7
28	15	28	14	13	19	57	2160	87	1690	182	11	7.9
29	15	16	14	16	18	42	1460	129	1090	182	11	7.7
30	17	14	14	16	---	105	470	544	1090	181	11	7.7
31	17	---	14	14	---	245	---	470	---	181	11	---
TOTAL	386	637	398.3	407.7	439	2699	18764	23158	9177.4	18062	1675.3	295.29
MEAN	12.5	21.2	12.8	13.2	15.1	87.1	625	747	306	583	54.0	9.84
MAX	17	158	17	20	22	499	2160	2160	1100	1370	180	55
MIN	10	11	8.3	9.8	12	14	23	32	7.5	12	1.6	.81

CAL YR 1983 TOTAL 70806.7 MEAN 194 MAX 1820 MIN 2.3

WTR YR 1984 TOTAL 76098.99 MEAN 208 MAX 2160 MIN .81

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06821190 PLATTE RIVER AT SHARPS STATION, MO

LOCATION.--Lat 39°24'03", long 94°43'36", in NW¼SE¼SW¼ sec.16, T.53 N., R.34 W., Platte County, Hydrologic Unit 10240012, on downstream side of center pier at Sharps bridge, 0.2 mi upstream from Jowler Creek, 3.3 mi downstream from Little Platte River, 3.6 mi south of Camden Point, and at mile 25.1.

DRAINAGE AREA.--2,380 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--December 1978 to current year.

GAGE.--Water-stage recorder. Datum of gage is 751.23 ft National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers).

REMARKS.--Water discharge records good. Some regulation from Smithville Lake.

AVERAGE DISCHARGE.--5 years, 1,815 ft³/s, 1,315,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 29,000 ft³/s June 10, 1984, gage height 34.55 ft; minimum discharge, 19 ft³/s Dec. 4., 1980.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 29,000 ft³/s June 10, gage height, 34.55 ft; minimum, 30 ft³/s Oct. 3, 4.

DISCHARGE (CUBIC FEET/SECOND) WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	33	102	2200	170	1390	651	1700	11300	1920	2200	563	62
2	32	80	925	170	1410	594	1450	12900	1650	2030	528	59
3	31	141	618	180	1480	558	2580	13200	1490	1200	504	58
4	31	624	520	200	1430	621	7110	8780	1370	7310	487	59
5	34	814	480	225	1530	700	9000	4280	1200	13200	473	59
6	32	377	536	250	1580	698	9890	4370	941	15900	458	55
7	32	523	441	300	1360	654	5600	4930	2700	12100	450	51
8	32	485	355	350	1180	628	3890	4230	7500	3380	429	55
9	33	337	301	400	897	554	5830	3810	13500	1820	282	77
10	33	337	344	450	867	507	6960	3620	27100	1860	269	75
11	38	751	349	400	801	469	5830	3430	28300	2540	267	149
12	69	2160	424	350	1010	484	5510	3280	26700	2680	204	111
13	114	1600	396	320	1730	523	4300	3140	23900	2070	164	144
14	92	713	376	280	2820	579	2930	2890	19300	1910	130	144
15	135	462	313	270	2180	720	2350	4150	15700	1840	115	146
16	116	365	187	230	1360	2030	2120	2800	13900	1790	104	130
17	88	342	170	200	1290	3150	2230	1570	17200	1760	96	88
18	86	345	150	180	1450	4850	2430	1210	22700	1820	91	70
19	116	297	130	160	1590	5410	2299	1070	24400	1780	88	62
20	259	258	140	150	2370	3490	2090	2240	22000	1700	86	90
21	221	221	150	150	3540	2630	2050	8620	16500	1200	93	126
22	300	282	140	150	1930	4440	5480	10800	9430	1090	111	70
23	479	712	130	155	1230	5730	9130	11200	4940	1040	105	51
24	312	553	120	167	1000	5820	10600	10600	3590	707	97	49
25	244	445	130	188	873	7450	8750	10300	3050	649	88	47
26	161	422	150	215	789	7920	4310	4880	2600	626	92	45
27	112	673	160	289	800	7020	3560	5380	2690	627	109	44
28	92	1660	150	367	818	7610	4940	6540	2490	708	93	48
29	77	3740	140	591	727	6800	8700	3690	2390	628	80	49
30	73	4420	140	857	---	3710	10700	3080	2420	637	72	53
31	100	---	160	1230	---	2310	---	2720	---	631	67	---
TOTAL	3607	24241	10925	9594	41432	89310	154310	175010	323571	89433	6795	2326
MEAN	116	808	352	309	1429	2881	5144	5645	10790	2885	219	77.5
MAX	479	4420	2200	1230	3540	7920	10700	13200	28300	15900	563	149
MIN	31	80	120	150	727	469	1450	1070	941	626	67	44

CAL YR 1983 TOTAL 609819 MEAN 1671 MAX 12100 MIN 31
WTR YR 1984 TOTAL 930554 MEAN 2542 MAX 28300 MIN 31

06821190 PLATTE RIVER AT SHARPS STATION, MO.--Continued
(National stream-quality accounting network station)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--March 1979 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: March 1979 to September 1981.
WATER TEMPERATURE: April 1979 to September 1981.

WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS) (00061)	SPE-CIFIC CON-DUCT-ANCE (UMHOS) (00095)	PH (STAND-ARD UNITS) (00400)	TEMPER ATURE (DEG C) (00010)	TUR-BID-ITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./100 ML) (31625)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)
NOV										
23...	0900	786	412	7.9	8.9	170	9.4	80	4200	17000
JAN										
12...	0900	350	481	7.4	.5	26	12.0	82	840	2200
MAY										
15..	1420	4710	308	7.7	18.5	360	6.7	70	5000	9400
JUL										
24...	1515	679	370	7 9	29.0	60	5.6	71	580	240

DATE	HARD-NESS (MG/L AS CACO3) (00900)	HARD-NESS, NONCAR-BONATE (MG/L CACO3) (00902)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	PERCENT SODIUM (00932)	SODIUM AD-SORP-TION RATIO (00931)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ALKA-LINITY FIELD (MG/L AS CACO3) (00410)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)
NOV										
23...	170	41	49	11	17	18	.6	5.3	127	39
JAN										
12...	220	70	64	14	18	15	.6	4.4	148	54
MAY										
15...	140	18	40	9.2	9.0	12	.3	3.0	120	24
JUL										
24...	170	29	50	10	10	11	.4	3.8	138	27

DATE	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	SOLIDS, DIS-SOLVED (TONS PER AC-FT) (70303)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)
NOV									
23...	21	.30	12	255	230	.35	541	3.6	.100
JAN									
12...	19	.20	13	310	280	.42	293	3.3	.380
MAY									
15...	8.1	.30	9.1	166	180	.23	2110	3.1	.050
JUL									
24...	9.6	.30	3.4	214	200	.29	292	.24	060

DATE	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS NH4) (71846)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	PHOS-PHORUS, TOTAL (MG/L AS P) (00665)	PHOS-PHORUS TOTAL (MG/L AS PO4) (71886)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P) (00666)	PHOS-PHORUS, ORTHO, DIS-SOLVED (MG/L AS P) (00671)	SEDI-MENT, SUS-PENDED (MG/L) (80154)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. %FINER THAN .062 MM (70331)
NOV									
23...	.13	4.9	.600	1.8	.080	.070	542	1150	95
JAN									
12...	.49	1.8	.240	.74	.070	.070	116	110	85
MAY									
15...	.06	7.0	.750	2.3	.090	.040	5440	69200	92
JUL									
24...	.08	1.5	.330	--	.040	.040	248	455	91

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06821190 PLATTE RIVER AT SHARPS STATION, MO--Continued

DATE	ALUMINUM, DISSOLVED (UG/L AS AL) (01106)	ARSENIC DISSOLVED (UG/L AS AS) (01000)	BARIUM, DISSOLVED (UG/L AS BA) (01005)	BERYLLIUM, DISSOLVED (UG/L AS BE) (01010)	CADMIUM DISSOLVED (UG/L AS CD) (01025)	CHROMIUM, DISSOLVED (UG/L AS CR) (01030)	COBALT, DISSOLVED (UG/L AS CO) (01035)	COPPER, DISSOLVED (UG/L AS CU) (01040)	IRON, DISSOLVED (UG/L AS FE) (01046)	LEAD, DISSOLVED (UG/L AS PB) (01049)
NOV 23...	30	1	130	.7	<1	<1	<3	3	26	<1
JAN 12...	20	1	130	<.5	<1	<1	<3	2	20	<1
MAY 15...	150	<1	110	<1.0	<1	<1	<3	3	150	2
JUL 24...	10	1	150	1.0	<1	<1	<3	2	7	<1

DATE	LITHIUM DISSOLVED (UG/L AS LI) (01130)	MANGANESE, DISSOLVED (UG/L AS MN) (01056)	MERCURY DISSOLVED (UG/L AS HG) (71890)	MOLYBDENUM, DISSOLVED (UG/L AS MO) (01060)	NICKEL, DISSOLVED (UG/L AS NI) (01065)	SELENIUM, DISSOLVED (UG/L AS SE) (01145)	SILVER, DISSOLVED (UG/L AS AG) (01075)	STRONTIUM, DISSOLVED (UG/L AS SR) (01080)	VANADIUM, DISSOLVED (UG/L AS V) (01085)	ZINC, DISSOLVED (UG/L AS ZN) (01090)
NOV 23...	12	57	<.1	<10	5	1	<1	220	<6	66
JAN 12...	13	120	<.1	<10	5	1	<1	250	<6	11
MAY 15...	9	13	<.1	<10	3	<1	<1	180	<6	33
JUL 24...	13	260	<.1	<10	8	<1	<1	230	<6	23

06892350 KANSAS RIVER AT DESOTO, KS

LOCATION.--Lat 38°59'00", long 94°57'52", in SE¼NE¼NE¼ sec.27, T.12 S., R.22 E., Leavenworth County, Hydrologic Unit 10270104, on left bank at downstream side of bridge on county road, north edge of DeSoto, 0.4 mi upstream from Kill Creek and at mile 31.0.

DRAINAGE AREA.--59,756 mi², of which a large area is noncontributing.

PERIOD OF RECORD.--July 1917 to current year. Monthly discharge only for some periods published in WSP 1310. Prior to October 1973, published as "at Bonner Springs".

REVISED RECORDS.--WSP 806: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 758.87 ft National Geodetic Vertical Datum of 1929. July 9, 1917, to Apr. 23, 1934, nonrecording gage; Apr. 24, 1934, to Nov. 26, 1961, water-stage recorder at site 9.7 mi downstream at datum 11.81 ft lower; Nov. 26, 1961, to Sept. 30, 1971, water-stage recorder at site 10.2 mi downstream at datum 17.81 ft lower; and Oct. 1, 1971, to Sept. 30, 1973, at site 10.2 mi downstream at datum 22.81 ft lower.

REMARKS.--Records good except those for winter period, which are poor. Natural flow of stream affected by lakes and reservoirs in Colorado, Nebraska, and Kansas, and by numerous diversions above station. Diurnal fluctuations caused by hydroelectric plant 20.8 mi upstream; since storage capacity is small, daily flows are not affected appreciably.

AVERAGE DISCHARGE.--67 years, 7,073 ft³/s, 5,124,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge 510,000 ft³/s July 13, 1951, gage height, 37.3 ft, from floodmarks, present site and datum, from rating curve extended above 128,000 ft³/s on basis of slope-area measurement of peak flow at mile 19.52 and at mile 18.60; minimum observed, 160 ft³/s Oct. 11, 1956.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known since at least 1844, that of July 13, 1951.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 73,400 ft³/s June 11, gage height, 19.04 ft; minimum daily, 1,050 ft³/s Oct. 2.

DISCHARGE (CUBIC FEET/SECOND) WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1090	2210	6140	1910	2850	4270	19200	58100	26600	27800	4910	2700
2	1050	2180	5170	1970	3000	4160	18200	36800	22100	27300	4770	2680
3	1580	2280	4730	2010	3270	4120	24100	34800	17790	27300	4320	2720
4	5290	2230	5500	2070	3800	4820	35600	34200	15400	27600	4090	2680
5	5740	2230	6720	2290	5560	5330	35400	29700	14600	27200	3900	2560
6	5740	2080	6690	2600	6230	5290	29800	27500	13700	26400	3690	2580
7	4240	2000	6490	2710	8970	5050	31900	27900	13100	26900	3640	2460
8	3130	2020	6420	2860	9750	4840	33400	27400	21800	34300	3580	2340
9	2660	2050	6270	2990	12300	[illegible]	43100	26600	40400	36300	3450	2060
10	2540	2500	5930	3060	12900	4260	32000	25600	45600	37860	3420	1800
11	2570	3640	6300	3100	13000	4210	[illegible]	23400	56890	40400	3390	1740
12	2960	4920	6180	3080	13100	4230	[illegible]	25000	25100	41600	3290	1670
13	2960	3890	5810	3060	13100	4410	27200	28000	20000	42100	3040	1640
14	2850	2960	5740	3020	13200	4560	24100	28200	18600	43200	2820	1820
15	2630	2590	5770	3000	13100	4740	23300	27900	18700	43300	2470	2200
16	3170	2440	5490	2960	13500	5000	22500	28600	20200	41500	2430	2340
17	3700	2350	4960	2930	14100	5930	21400	31600	26700	37800	2360	2350
18	3620	2360	4940	2910	12800	8570	20700	31300	17300	35300	2380	1860
19	3740	2350	4760	2900	12000	18060	22900	30800	14300	32400	2330	1570
20	4280	3090	4400	2870	12000	22400	24900	30500	15400	32200	2290	1450
21	4980	2960	3510	2850	11900	19300	29300	31800	24500	28800	2140	1400
22	4750	3070	2610	2800	11100	26900	31200	30400	43400	25100	2310	1370
23	4480	3310	2040	2740	10200	29000	31300	29700	32600	23000	2200	1370
24	3910	2920	1940	2700	7430	25700	29300	28200	18100	21100	2370	1340
25	4120	2410	1900	2670	6350	32400	27500	27100	16400	17600	2510	1290
26	4080	2210	1890	2650	5980	33100	28600	27000	16500	13500	2540	1270
27	3430	3180	1880	2660	5060	33300	30400	29200	18600	9560	2620	1240
28	3040	7500	1880	2670	4620	31100	33800	32900	23600	8080	2750	1220
29	2930	13100	1890	2680	4420	24800	37600	29900	29400	6760	2770	1210
30	2870	8670	1890	2720	---	23700	55100	28000	28200	6100	2790	1200
31	2490	---	1880	2770	---	22600	---	27200	---	5200	2750	---
TOTAL	106620	101700	137720	84210	265590	430570	879500	935300	713400	853500	94320	56130
MEAN	3439	3390	4443	2716	9158	13890	29320	30170	23780	27530	3043	1871
MAX	5740	13100	6720	3100	14100	33300	55100	58100	56800	43300	4910	2720
MIN	1050	2000	1880	1910	2850	4120	18200	23400	13100	5200	2140	1200

CAL YR 1983 TOTAL 3346960 MEAN 9170 MAX 58600 MIN 1070
WTR YR 1984 TOTAL 4658560 MEAN 12730 MAX 58100 MIN 1050

06893000 MISSOURI RIVER AT KANSAS CITY, MO

LOCATION.--Lat 39°06'43", long 94°35'16", in sec.32, T.50 N., R.32 W., Jackson County, Hydrologic Unit 10300101, on downstream side of right pier of Chicago, Burlington and Quincy Railroad bridge at Kansas City, 1.4 mi downstream from Kansas River. River mile 366.1.

DRAINAGE AREA.--485,200 mi², approximately.

PERIOD OF RECORD.--October 1897 to current year. Prior to August 1928 monthly discharge only, published in WSP 1310. Gage-height records collected at same site 1873-99 are contained in reports of Missouri River Commission; those since 1900 are contained in reports of National Weather Service.

REVISED RECORDS.--WDR MO-76-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 716.40 ft National Geodetic Vertical Datum of 1929. Prior to May 4, 1931, nonrecording gage, and May 4, 1931, to Aug. 23, 1934, water-stage recorder, at present site and datum. Aug. 24, 1934 to May 15, 1947, water-stage recorder at site 200 ft upstream at same datum. May 16, 1947, to Feb. 28, 1948, nonrecording gage at present site and datum.

REMARKS.--Records good. Discharge measurements made weekly except during ice-flow periods. Some regulation from many upstream reservoirs. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--87 years, 55,330 ft³/s, 40,080,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 573,000 ft³/s July 14, 1951; maximum gage height, 36.2 ft July 14, 1951; minimum discharge, about 1,500 ft³/s Jan. 9, 10, 1937.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 16, 1844 reached a stage of 38.0 ft, discharge, about 625,000 ft³/s, computed by Corps of Engineers.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 241,000 ft³/s June 11, gage height, 24.85 ft, maximum gage height, 25.75 ft June 22; minimum discharge, 22,300 ft³/s Dec. 20.

DISCHARGE (CUBIC FEET SECOND) WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	54500	51400	61300	23000	49500	67400	104000	212000	109000	184000	67700	60400
2	54700	51200	56500	23000	50500	65000	99800	196000	98600	179000	67400	60800
3	55600	52000	55400	23000	53500	63200	119000	174000	90700	173000	66300	61900
4	56800	54900	54200	24000	61700	63900	163000	165000	88200	174000	64800	62600
5	58600	55600	52900	25000	57000	64500	167000	154000	85100	179000	63500	62100
6	59200	55200	53200	27000	51200	65900	157000	146000	85700	176000	63000	60200
7	58700	53400	51800	30000	50800	68700	150000	144000	98200	164000	63500	58700
8	56800	54100	50900	35000	55200	67700	145000	142000	146000	148000	64400	59900
9	55300	54500	48200	40000	54700	64700	154000	141000	197000	131000	65300	59600
10	53100	56300	47100	46700	55800	62300	158000	144000	209000	121000	64500	60000
11	53300	60500	46300	47000	71500	56900	149000	144000	239000	119000	64600	60500
12	54700	62700	46400	48000	60600	55600	158000	137000	217000	119000	64800	60800
13	55700	61600	47100	48000	64600	56300	152000	133000	182000	118000	64200	61300
14	55400	58100	47800	46800	71900	57500	146000	130000	168000	118000	62900	65600
15	54300	56300	48000	44600	74300	57900	149000	125000	174000	119000	62100	63200
16	53700	56100	45400	42600	75500	61800	149000	117000	196000	119000	61500	62700
17	55000	55700	45400	41300	86300	74100	147000	111000	210000	116000	61200	62900
18	54100	55100	44500	39800	95800	81400	142000	105000	202000	116000	60500	63800
19	55800	55400	37700	38800	91600	89900	142000	97900	206000	112000	61400	64000
20	56000	56000	33700	38600	90500	90200	143000	120000	212000	110000	61500	63000
21	58200	56700	40000	38100	83400	85300	149000	149000	219000	107000	61700	62200
22	59100	57900	39900	37800	76800	89800	158000	146000	237000	101000	61300	61700
23	57800	60000	38000	37400	74100	99100	168000	140000	230000	96200	62000	60600
24	56600	60400	35000	37100	73800	103000	164000	135000	208000	92200	62600	60900
25	55900	59800	36000	37500	75900	118000	161000	130000	196000	86600	63000	61500
26	56100	59400	33000	38400	74500	132000	154000	140000	186000	81300	62000	61800
27	54200	61600	30000	40600	71600	132000	144000	135000	179000	75300	62000	62600
28	53200	68600	27000	43900	70300	141000	144000	130000	179000	73100	62700	63000
29	52400	77300	25000	47200	69300	131000	150000	123000	182000	74200	62600	62700
30	53500	70400	23000	47700	---	120000	182000	114000	186000	73600	61600	61600
31	52900	---	22500	48900	---	112000	---	113000	---	69600	61000	---
TOTAL	1721200	1748200	1323200	1186800	1992200	2598100	4467800	4292900	5215500	3725100	1957600	1852600
MEAN	55520	58270	42680	38280	68700	83810	148900	138500	173900	120200	63150	61750
MAX	59200	77300	61300	48900	95800	141000	182000	212000	239000	184000	67700	65600
MIN	52400	51200	22500	23000	49500	55600	99800	97900	85100	69600	60500	58700

CAL YR 1983	TOTAL	27164900	MEAN	74420	MAX	186000	MIN	22500
WTR YR 1984	TOTAL	32081200	MEAN	87650	MAX	239000	MIN	22500

06893500 BLUE RIVER NEAR KANSAS CITY, MO

LOCATION.--Lat 38°57'26", long 94°33'31, in SE¼NE¼ sec.28, T.48 N., R.33 W., Jackson County, Hydrologic Unit 10300101, on downstream side of right pier of bridge on Bannister Road, 0.4 mi downstream from Indian Creek, in Kansas City and at river mile 23.2.

DRAINAGE AREA.--188 mi^2.

PERIOD OF RECORD.--May 1939 to current year.

REVISED RECORDS.--WSP 926: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 753.73 ft National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers). Prior to July 1, 1939, nonrecording gage at same site and datum.

REMARKS.--Records good. Low flow regulated by commercial plants above station. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--45 years, 150 ft^3/s, 10.83 in/yr, 108,700 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 41,000 ft^3/s Sept., 13, 1961, gage height, 44.46 ft; no flow September 1939 to February 1940 and in August 1946.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Nov. 17, 1928, reached a stage about 39 ft from information by City of Kansas City.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 5,800 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)
Apr. 12	0045	6,920	20.45
June 9	0845	*25,100	37.30
June 20	1845	6,340	19.53
June 22	0545	5,850	18.72

Minimum discharge, 14 ft^3/s Oct. 16.

DISCHARGE (CUBIC FEET/SECOND) WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22	248	108	53	63	137	196	342	101	65	27	20
2	22	171	102	52	61	127	809	328	90	60	28	21
3	23	1010	286	55	61	113	1010	337	84	56	30	25
4	32	208	261	68	57	330	447	214	75	490	29	25
5	37	104	163	110	53	208	324	187	68	190	29	21
6	26	78	134	147	48	151	274	184	60	97	29	20
7	24	71	103	177	45	136	467	183	54	135	28	20
8	24	59	88	206	44	136	1940	148	515	137	40	116
9	23	92	80	212	53	108	751	126	18700	78	30	36
10	22	185	73	148	60	103	460	114	3770	64	28	25
11	238	106	117	113	119	97	1290	109	486	309	26	25
12	79	84	104	100	255	108	3400	98	305	98	25	23
13	28	73	87	89	133	132	546	91	224	67	25	29
14	22	63	79	73	98	170	396	84	175	56	25	645
15	19	55	76	72	85	324	322	78	972	49	24	82
16	18	52	66	73	131	366	279	73	314	48	25	39
17	19	47	61	63	106	1050	231	69	151	46	25	31
18	19	48	58	60	180	1090	200	63	118	42	24	28
19	267	69	53	52	158	3000	177	103	102	39	107	26
20	118	50	51	46	115	1040	267	182	2110	36	28	24
21	259	44	56	43	103	986	894	86	1850	35	41	23
22	65	270	54	45	98	652	701	76	2060	33	30	22
23	42	231	54	51	95	403	424	68	365	33	23	23
24	36	130	53	53	88	571	296	58	222	33	22	23
25	28	86	49	54	81	439	238	61	159	31	20	22
26	25	91	48	68	123	675	198	54	129	42	21	21
27	22	1040	55	81	257	671	184	1730	119	33	34	31
28	23	434	58	77	233	401	147	659	111	29	22	27
29	22	191	52	88	161	309	1560	224	102	28	21	23
30	231	137	47	90	---	250	1100	155	75	28	21	21
31	61	---	49	74	---	216	---	122	---	27	21	---
TOTAL	1896	5527	2725	2693	3164	14499	19528	6406	33666	2514	908	1517
MEAN	61.2	184	87.9	86.9	109	468	651	207	1122	81.1	29.3	50.6
MAX	267	1040	286	212	257	3000	3400	1730	18700	490	107	645
MIN	18	44	47	43	44	97	147	54	54	27	20	20

CAL YR 1983	TOTAL	79205	MEAN	217	MAX	6300	MIN 18
WTR YR 1984	TOTAL	95043	MEAN	260	MAX	18700	MIN 18

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06893793 LITTLE BLUE RIVER BELOW LONGVIEW DAMSITE IN KANSAS CITY, MO

LOCATION.--Lat 38°55'52", long 94°28'12", in NW¼SE¼SE¼ sec.32, T.48 N., R.32 W., Jackson County, Hydrologic Unit 10300101, on left bank 700 ft downstream from Longview damsite in Kansas City, 1 mi downstream from Longview Road and 2.0 mi upstream from Cedar Creek.

DRAINAGE AREA.--50.7 mi².

PERIOD OF RECORD.--August 1966 to current year.

REVISED RECORDS.--WDR MO-77-1: 1975-76.

GAGE.--Water-stage recorder. Datum of gage is 798.60 ft National Geodetic Vertical Datum of 1929. Prior to October 25, 1974 at site 1.0 mi upstream and at datum 24.90 ft higher.

REMARKS.--Records fair. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--18 years, 40.1 ft³/s 10.74 in/yr, 29,050 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 18,700 ft³/s Aug. 13, 1982, gage height, 21.24 ft highwater mark. No flow at times during Sept. 1983 and Aug. to Sept. 1984.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 6,100 ft³/s at 0800 hours June 9, gage height, 9.50 ft from floodmark, no other peak above base of 2,200 ft³/s; no flow Aug. 23-26, Sept. 9-12.

DISCHARGE (CUBIC FEET/SECOND) WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.44	33	19	6.9	16	25	35	405	14	10	.77	.08
2	.44	85	18	7.1	16	21	171	187	13	9.1	.70	.08
3	.38	230	73	7.2	15	17	416	93	11	7.9	.48	.08
4	.55	161	121	11	13	71	194	41	11	121	.52	.08
5	1.2	19	49	26	10	33	66	32	9.4	36	.59	.08
6	1.0	13	34	55	9.5	25	46	31	8.3	15	.40	.05
7	1.2	12	22	63	8.2	22	95	33	7.5	11	.17	.00
8	1.7	10	19	68	9.2	23	472	24	17	10	.31	.30
9	1.7	11	17	60	11	17	426	21	2400	8.3	.34	.00
10	1.3	43	15	31	15	17	238	18	850	6.4	.33	.00
11	13	17	53	21	15	18	86	18	700	33	.24	.00
12	22	10	38	18	22	18	626	16	500	11	.42	.00
13	6.8	8.3	24	15	16	27	451	15	400	9.1	.26	.87
14	2.8	6.8	19	14	13	53	284	14	652	4.8	.04	87
15	1.5	5.4	16	12	12	137	210	13	486	4.5	.03	10
16	.96	4.2	13	13	16	180	155	13	279	3.4	.08	3.1
17	16	3.5	11	10	17	344	110	12	20	2.9	.12	1.8
18	9.8	2.9	11	8.0	38	270	75	11	13	2.7	.24	1.4
19	100	9.9	8.9	6.8	28	652	50	26	11	2.7	.34	1.1
20	30	7.2	9.9	5.5	17	576	60	40	217	2.6	.24	.93
21	121	8.2	11	4.9	15	500	241	16	635	2.1	.07	.80
22	27	29	10	4.0	14	394	160	13	720	1.9	.17	.77
23	12	117	10	5.2	13	162	75	12	568	1.5	.00	.77
24	6.8	44	9.0	7.6	12	112	46	10	491	1.1	.00	.77
25	4.0	19	8.0	10	10	89	30	10	380	1.1	.00	1.2
26	2.8	15	9.0	15	19	122	30	14	182	1.0	.00	.64
27	2.5	273	10	20	74	159	33	180	19	.96	.15	.65
28	1.7	284	10	18	64	80	25	330	14	.96	.08	.68
29	1.4	39	8.7	25	29	57	281	57	21	.96	.08	.68
30	63	26	8.4	26	---	44	570	23	12	.96	.17	.68
31	19	---	8.3	16	---	38	---	18	---	.86	.08	---
TOTAL	473.97	1546.4	693.2	610.2	566.9	4308	5763	1746	9661.2	324.80	7.42	114.59
MEAN	15.3	51.5	22.4	19.7	19.5	139	192	56.3	322	10.5	.24	3.82
MAX	121	284	121	68	74	652	626	405	2400	121	.77	87
MIN	.38	2.9	8.0	4.0	8.2	17	25	10	7.5	.86	.00	.00

CAL YR 1983	TOTAL	15259.10	MEAN	41.8	MAX	2040	MIN	.00
WTR YR 1984	TOTAL	25815.68	MEAN	70.5	MAX	2400	MIN	.00

06893890 EAST FORK LITTLE BLUE RIVER NEAR BLUE SPRINGS, MO

LOCATION.--Lat 39°01'32", long 94°20'37", in NE¼NE¼NW¼ sec.33, T.49 N., R.31 W., Jackson County, Hydrologic Unit 10300101, on left downstream side of bridge on east bound lane of U.S. Highway 40, 2.6 mi west of Blue Springs, and 1.5 miles upstream from mouth.

DRAINAGE AREA.--34.4 mi^2.

PERIOD OF RECORD.--October 1974 to current year.

GAGE.--Water-stage recorder. Datum of gage is 753.09 ft National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers).

REMARKS.--Records poor. Several observations of water temperature were made during the year. Flow impounded or detained in Jackson County Lake at times.

AVERAGE DISCHARGE.--10 years, 27.4 ft^3/s, 10.82 in/yr, 19,850 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,000 ft^3/s Aug. 13, 1982, gage height, 22.14 ft; no flow at times each year.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,870 ft^3/s at 1800 hrs June 9, gage height, 18.27 ft, no other peak above base of 1,000 ft^3/s; no flow several days.

DISCHARGE (CUBIC FEET/SECOND) WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	3.4	33	14	7.9	20	51	340	32	36	.38	1.0
2	.00	9.3	30	13	7.9	19	47	230	27	31	.26	.90
3	.00	17	27	14	7.8	17	47	130	24	27	.20	.60
4	.00	17	26	15	7.6	23	50	60	22	314	.08	.80
5	.00	4.2	26	16	6.8	23	54	52	21	118	.04	1.0
6	.00	2.5	26	24	5.0	21	100	46	19	78	.03	1.5
7	.00	2.1	30	24	6.1	20	190	47	17	68	.00	1.0
8	.00	1.4	31	24	6.2	20	400	36	24	64	.03	1.5
9	.00	1.1	28	22	6.2	19	495	24	1650	53	.05	5.0
10	.00	3.3	24	20	7.2	18	300	17	1170	44	.05	3.0
11	.20	3.2	24	13	7.5	18	250	12	254	35	.03	2.6
12	.16	2.5	24	13	8.4	18	520	7.8	131	26	.02	2.0
13	.05	1.9	24	13	8.3	20	430	5.6	94	25	.00	1.1
14	.03	1.6	24	11	8.0	24	280	7.0	73	24	.04	1.2
15	.01	1.4	24	11	8.0	46	210	42	200	22	.04	10
16	.00	1.2	22	11	8.6	64	170	25	271	18	.01	6.0
17	.00	1.2	19	10	9.2	81	145	24	149	15	.00	4.0
18	.00	.83	16	9.6	12	110	125	22	110	12	.10	2.7
19	.31	1.1	15	8.4	14	200	110	23	71	11	.20	2.5
20	.32	1.5	14	8.0	10	335	110	44	62	11	.18	1.6
21	15	1.7	12	8.8	10	315	320	29	123	7.7	.24	1.0
22	4.0	4.2	11	9.2	10	280	310	28	148	7.3	.38	.40
23	1.6	12	12	10	9.2	235	240	25	117	3.7	.50	.20
24	.92	11	13	11	8.3	180	180	23	94	5.7	.34	.05
25	.74	9.2	14	13	8.0	140	150	23	71	3.6	.20	.06
26	.65	9.2	12	14	9.5	120	130	20	59	2.7	.40	.25
27	.49	72	12	12	24	83	120	61	66	1.9	.90	.52
28	.46	56	13	11	29	76	80	53	48	1.3	1.4	.38
29	.51	44	14	8.9	23	71	110	42	45	1.0	1.8	.23
30	3.1	38	15	8.6	---	61	400	39	38	.69	1.6	.20
31	2.5	---	16	7.7	---	56	---	35	---	.51	1.2	---
TOTAL	31.05	335.03	631	408.2	293.7	2738	6124	1572.4	5230	1068.10	10.70	53.19
MEAN	1.00	11.2	20.4	13.2	10.1	88.3	204	50.7	174	34.5	.35	1.77
MAX	15	72	33	24	29	335	520	340	1650	314	1.8	10
MIN	.00	.83	11	7.7	5.0	17	47	5.6	17	.51	.00	.05

CAL YR 1983	TOTAL	11130.68	MEAN	30.5	MAX	652	MIN	.00
WTR YR 1984	TOTAL	18495.37	MEAN	50.5	MAX	1650	MIN	.00

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06894000 LITTLE BLUE RIVER NEAR LAKE CITY, MO

LOCATION.--Lat 39°06'02", long 94°18'01", in SW¼SE¼ sec. 35, T. 50 N., R.31 W., Jackson County, Hydrologic Unit 10300101 at downstream side of right pier of upstream bridge on dual State Highway 78, 3 mi southwest of Lake City, and 10.5 mi upstream from mouth

DRAINAGE AREA.--184 mi².

PERIOD OF RECORD.--March 1948 to current year.

GAGE.--Water-stage recorder. Datum of gage is 719.15 ft National Geodetic Vertical Datum of 1929. Prior to July 24, 1957, nonrecording gage at site 50 ft downstream at same datum. Water-stage recorder July 24, 1957 to Apr. 28, 1977. Nonrecording gage Apr. 29, 1977 to May 10, 1979.

REMARKS.--Records poor. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--36 years, 149 ft³/s, 11.00 in/yr, 108,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 42,300 ft³/s Aug. 13, 1982; maximum gage height, 27.94 ft Sept. 14, 1961; no flow at times during 1953-54, 1973.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 2,000 ft³/s and maximum(*):

Date	Time	Discharge (ft³/s)	Gage height (ft)
Mar. 19	0230	3,570	11.52
Apr. 12	0445	3,910	11.96
Apr. 29	1945	5,200	13.43
June 9	1100	*12,000	18.37
June 15	2145	4,250	12.36

Minimum discharge, 0.83 ft³/s Sept. 7.

DISCHARGE (CUBIC FEET/SECOND) WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	27	80	94	50	56	93	130	896	57	198	13	3.6
2	28	147	85	50	53	85	134	626	50	170	12	3.2
3	29	302	144	53	55	74	126	424	45	250	10	2.8
4	29	235	209	42	43	129	132	255	41	330	9.2	2.5
5	31	68	125	47	38	143	140	181	40	450	8.8	3.4
6	29	53	105	115	26	67	260	159	37	247	8.6	4.0
7	30	52	91	133	38	56	400	160	32	163	7.5	2.5
8	30	48	90	138	44	58	605	128	43	132	7.2	8.3
9	27	49	81	133	45	50	730	111	8460	99	7.0	17
10	33	99	72	97	48	44	752	98	4610	74	6.9	8.7
11	49	63	127	72	47	44	439	89	1420	102	6.0	7.4
12	63	49	108	70	53	43	2730	79	1070	101	5.9	6.7
13	39	47	90	62	57	49	1170	73	944	68	5.6	6.6
14	32	45	83	60	51	78	752	62	837	52	4.7	25
15	15	41	115	54	48	172	457	59	1540	49	4.3	101
16	28	39	105	58	51	511	280	56	1610	47	4.3	31
17	46	39	80	52	53	743	215	52	535	46	4.6	17
18	39	36	62	50	60	670	167	47	250	36	4.6	12
19	146	44	56	46	87	2480	142	47	171	35	4.6	9.4
20	72	41	55	44	67	1440	147	136	179	31	4.9	8.1
21	193	42	54	44	58	1340	588	76	1300	25	5.0	6.8
22	77	72	52	44	53	1200	525	56	1450	25	6.6	6.2
23	53	189	51	47	52	1000	403	50	1020	24	6.9	5.5
24	44	98	53	49	50	700	232	44	857	21	5.2	5.3
25	38	68	52	53	47	500	182	44	731	21	4.9	5.2
26	35	63	50	60	54	340	169	42	580	20	4.9	4.5
27	34	407	55	65	131	230	168	208	363	18	6.1	5.1
28	33	407	53	61	206	200	137	588	310	17	8.7	8.6
29	31	141	52	65	119	180	1490	328	265	16	6.3	8.5
30	110	111	52	66	---	165	2070	89	230	14	5.2	7.2
31	46	---	54	53	---	150	---	68	---	14	3.8	---
TOTAL	1516	3175	2555	2033	1790	13034	15872	5331	28477	2899	203.3	343.1
MEAN	48.9	106	82.4	65.6	61.7	420	529	172	949	93.5	6.56	11.4
MAX	193	407	209	138	206	2480	2730	876	8460	450	13	101
MIN	15	36	50	42	26	43	126	42	32	14	3.8	2.5

CAL YR 1983	TOTAL	91125	MEAN	250	MAX	6040	MIN	15
WTR YR 1984	TOTAL	77228.4	MEAN	211	MAX	8460	MIN	2.5

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06895500 MISSOURI RIVER AT WAVERLY, MO

LOCATION.--Lat 39°12'54", long 93°30'54", sec.14, T.51 N., R.23 W., Lafayette County, Hydrologic Unit 10300101 on downstream side of pier of bridge on State Highway 24, 65 at Waverly. River mile 293.5. Prior to Jan. 9, 1984 at site 450 ft downstream.

DRAINAGE AREA.--487,200 mi^2, approximately.

PERIOD OF RECORD.--October 1928 to current year. Gage-height records collected at same site 1878-79, 1883-99 are contained in reports of Missouri River Commission; since 1915 in reports of National Weather Service. Daily discharge not computed Apr. 1, 1977 to Mar. 31, 1978.

REVISED RECORDS.--WDR MO-76-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 646.00 ft National Geodetic Vertical Datum of 1929. Prior to Jan. 1, 1934, at datum 5.00 ft lower; Mar. 30, 1929, to Apr. 4, 1934, nonrecording gage, Apr. 5, 1934, to June 13, 1943, water-stage recorder, June 14, 1943, to Sept. 15, 1944, nonrecording gage, Sept. 16, 1944, to May 28, 1969, water-stage recorder at present site and datum; May 29, 1969 to Jan. 8, 1984, water-stage recorder at site 450 ft downstream, present datum. Jan. 9, 1984, to May 24, 1984, nonrecording gage at present site and datum.

REMARKS.--Records good except those for December thru May, which are fair. Discharge measurements made weekly except during ice-flow periods. Some regulation from many upstream reservoirs. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--54 years (1929-76, 1979-84), 50,330 ft^3/s, 36,460,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 549,000 ft^3/s July 16, 1951; maximum gage height, 28.85 ft Oct. 13, 1973; minimum discharge, about 1,700 ft^3/s Jan. 9, 1940.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 245,000 ft^3/s June 23, gage height, 29.22 ft; minimum daily, 22,000 ft^3/s Dec. 31.

DISCHARGE (CUBIC FEET/SECOND) WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	52700	51800	65800	22400	50000	63400	109000	185000	111000	177000	70200	58200
2	53000	51600	59500	22500	50500	62400	103000	201000	104000	173000	69500	57800
3	53300	51800	56400	22500	53000	60700	108000	191000	95000	169000	68800	58600
4	53700	55400	56200	23400	62500	61300	142000	168000	89600	170000	67400	59100
5	55900	55400	55100	24500	59300	62600	168000	158000	88600	178000	66000	59100
6	56500	55700	54700	26600	54100	63900	162000	152000	87400	175000	64900	58200
7	56800	54100	52800	29500	51800	66300	154000	144000	93300	165000	64700	57300
8	55300	53000	52800	34300	55000	65700	150000	141000	115000	156000	65200	56900
9	53600	53600	52100	39500	54500	62400	150000	137000	171000	144000	65800	58000
10	52100	54400	49300	46500	55000	60400	167000	135000	204000	134000	65200	57400
11	50600	56300	48900	47000	66400	54900	156000	136000	213000	128000	64100	57700
12	52400	59100	48400	48200	66800	53600	155000	134000	223000	126000	64100	58100
13	52400	59600	48200	48300	61800	54000	170000	125000	209000	123000	64000	57900
14	52400	57100	48500	47000	66000	55200	153000	123000	186000	121000	62900	61200
15	51300	54800	48100	44500	72500	55600	145000	119000	180000	120000	62000	62800
16	49200	53900	47400	42700	71000	59100	151000	117000	196000	119000	61300	59200
17	49300	53900	45100	41500	73100	72600	147000	107000	212000	115000	60800	58700
18	49400	53400	45600	39900	87500	81500	143000	104000	223000	113000	60100	59300
19	49900	53400	39900	38500	92600	96200	137000	98700	221000	111000	59600	59700
20	51100	54300	35000	38300	84800	106000	135000	96700	223000	108000	60000	59500
21	51600	55700	38000	38000	82300	95100	138000	125000	228000	107000	59700	58500
22	53300	57200	38500	37900	75000	87300	151000	142000	235000	101000	59900	58000
23	53600	61900	37000	37500	72600	92200	156000	135000	242000	95700	59300	57800
24	52700	62500	34500	37000	71600	97400	157000	132000	228000	92500	59600	57600
25	51700	61300	35100	37200	72800	104000	154000	134000	208000	87100	59900	57800
26	52200	60500	32200	38500	70800	125000	152000	133000	196000	82000	59300	58400
27	52300	63500	29200	40500	67300	128000	144000	134000	187000	77400	58500	58600
28	51200	71600	26300	44000	66000	132000	137000	144000	178000	73500	59000	59200
29	50700	75600	24400	47000	64100	135000	137000	134000	175000	73600	60000	59100
30	51000	76500	22500	48000	---	122000	135000	118000	177000	74600	59600	58500
31	52700	---	22000	49000	---	115000	---	114000	---	72600	58700	---
TOTAL	1623900	1738900	1349500	1182200	1930700	2550800	4366000	4217400	5298900	3762000	1940300	1758200
MEAN	52380	57960	43530	38140	66580	82280	145500	136000	176600	121400	62590	58610
MAX	56800	76500	65800	49000	92600	135000	170000	201000	242000	178000	70200	62800
MIN	49200	51600	22000	22400	50000	53600	103000	96700	87400	72600	58500	56900

CAL YR 1983 TOTAL 27433600 MEAN 75160 MAX 211000 MIN 22000
WTR YR 1984 TOTAL 31718800 MEAN 86660 MAX 242000 MIN 22000

06897500 GRAND RIVER NEAR GALLATIN, MO

LOCATION.--Lat 39°55'37", long 93°56'33", in SW¼NW¼ sec.16, T.59 N., R.27 W., Davies County, Hydrologic Unit 10280101, on left bank 100 ft upstream from bridge on State Highway 6, 50 ft downstream from Chicago, Rock Island and Pacific Railroad Co. Bridge, 1 mi northeast of Gallatin, and 6 mi upstream from Honey Creek, and at mile 96.

DRAINAGE AREA.--2,250 mi², approximately.

PERIOD OF RECORD.--June 1921 to current year.

REVISED RECORDS.--WSP 786: 1933-34. WSP 1280: 1922. WDR MO-81-1: 1981.

GAGE.--Water-stage recorder. Datum of gage is 712.56 ft National Geodetic Vertical Datum of 1929. Prior to Jan. 31, 1922, nonrecording gage at site 100 ft upstream at same datum. January 31, 1922, to Nov. 15, 1936, nonrecording gage, at site about 1,100 ft upstream at datum 0.17 ft higher. Nov. 16, 1936, to Nov. 14, 1937, nonrecording gage, and Nov. 15, 1937, to Sept. 21 1961, water-stage recorder on center pier of highway bridge at present datum. Sept. 22-27, 1961, nonrecording gage at railroad brige, 100 ft upstream at same datum, Sept. 28, 1961, to Mar. 4, 1964, water-stage recorder on downstream side of left bank pier of highway bridge and wire-weight gage for stages below 7.2 ft at present datum.

REMARKS.--Records poor. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--63 years, 1,178 ft³/s, 7.11 in/yr, 853,500 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 69,100 ft³/s June 24, 1947, gage height, 24.55 ft; maximum gage height, 37.02 ft June 2, 1929, (present site and datum); minimum discharge, 2.2 ft³/s June 3, 4, Oct. 27, 28, 29, 1956.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known, about 40 ft July 8, 1909, from floodmarks.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 18,000 ft³/s and maximum (*):

Date	Time	Discharge (ft³/s)	Gage height (ft)
Apr. 22	2400	18,200	22.00
Apr. 30	0800	20,200	23.55
June 10	2100	*39,200	[a]32.64
June 16	1800	30,100	29.90

([a]maximum observed)

Minimum daily, 20 ft³/s Oct. 9.

DISCHARGE (CUBIC FEET/SECOND) WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	29	69	932	130	300	507	1290	12700	580	549	162	66
2	28	74	580	130	500	450	755	3660	386	477	150	61
3	27	105	446	150	750	430	5020	2220	260	429	145	58
4	26	517	365	175	600	356	7340	2500	188	497	142	54
5	25	457	374	200	500	316	3390	1730	146	5660	150	55
6	24	492	436	225	300	349	2190	1570	96	1570	135	55
7	24	338	281	250	500	329	1440	1440	102	823	128	54
8	21	250	274	225	900	280	2940	1170	11800	595	127	58
9	20	209	295	200	943	250	7710	990	33700	454	117	57
10	22	340	312	180	917	206	5470	878	37600	403	128	72
11	30	2350	388	150	893	224	2600	814	25700	431	127	135
12	42	1430	601	160	1000	230	6220	768	7380	586	116	131
13	52	674	743	150	2420	250	5620	1030	3720	360	107	96
14	76	405	517	150	2510	297	2450	6750	3260	293	100	74
15	93	294	350	150	1690	647	1740	2460	10500	272	98	69
16	82	252	300	160	1190	3320	1550	1290	27400	253	100	67
17	72	231	280	140	1320	2450	1320	999	17700	235	95	61
18	60	221	250	120	1350	5110	1100	865	4010	226	91	60
19	61	205	200	100	1960	2840	889	909	2710	224	96	58
20	72	186	180	90	4320	2070	742	11000	2010	213	96	56
21	117	181	200	90	2370	2170	2500	9010	1400	205	91	43
22	179	176	180	95	1380	8210	14700	3270	1320	191	89	42
23	180	189	150	95	1180	7180	15400	9430	7960	182	70	45
24	186	233	120	105	943	7460	5600	5590	4200	170	60	47
25	130	337	100	150	791	7220	2610	2060	1670	149	60	38
26	103	382	100	300	600	7240	1750	2960	1210	151	59	30
27	85	474	110	275	647	8350	1570	3490	957	216	58	31
28	71	2410	110	300	703	6180	1520	2820	732	208	56	33
29	67	3500	100	275	638	3260	5740	1840	658	178	58	38
30	64	2130	110	275	---	1910	19900	1330	605	190	58	41
31	65	---	120	250	---	1630	---	973	---	179	59	---
TOTAL	2133	19211	9504	5445	34115	81721	133066	98516	209960	16569	3128	1785
MEAN	68.8	640	307	176	1176	2636	4436	3178	6999	534	101	59.5
MAX	186	3500	932	300	4320	8350	19900	12700	37600	5660	162	135
MIN	20	69	100	90	300	206	742	768	96	149	56	30

CAL YR 1983	TOTAL	429852	MEAN	1178	MAX	18900	MIN 20
WTR YR 1984	TOTAL	615153	MEAN	1681	MAX	37600	MIN 20

06899500 THOMPSON RIVER AT TRENTON, MO

LOCATION.--Lat 40°04'46", long 93°38'39", in NE¼SW¼ sec.18, T.61 N., R.24 W., Grundy County, Hydrologic Unit 10280102, at downstream side of center pier of bridge in Trenton, 1.8 mi downstream from Weldon River, and at mile 26.0.

DRAINAGE AREA.--1,670 mi², approximately.

PERIOD OF RECORD.--June 1921 to September 1923 (published as "near Hickory'), August 1928 to current year. Monthly discharge only for some periods, published in WSP 1310. Gage-height records collected in vicinity 1910-14 and since 1925 are contained in reports of National Weather Service.

REVISED RECORDS.--WSP 1116: 1945(M). WDR MO-83-1: 1981

GAGE.--Water-stage recorder and nonrecording gage. Datum of gage is 721.87 ft National Geodetic Vertical Datum of 1929. June 25, 1921 to Aug. 26, 1923, nonrecording gage at two sites 12 mi downstream (by old channel route) at different datums. Aug. 1. 1928, to Sept. 15, 1930, nonrecording gage at present site and datum. Sept. 16, 1930, to May 31, 1945, nonrecording gage at site 1.5 mi downstream at datum 3.46 ft lower. June 1, 1945, to Dec. 7, 1959, nonrecording gage at same site and datum.

REMARKS.--Records fair. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--58 years (1921-23, 1928-84), 961 ft³/s, 7.81 in/yr, 696 200 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 95,000 ft³/s June 6, 1947, gage height, 25.7 ft from floodmark; minimum daily, 1 ft³/s June 17, 1956.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known, 30.7 ft July 6, 1909, present site and datum, from information by local residents, discharge, 50,000 ft³/s, determination by Corps of Engineers, occurred before new channel was dredged.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 15,000 ft³/s and maximum (*):

Date	Time	Discharge (ft³/s)	Gage height (ft)
Apr. 30	0130	18,100	14.15
June 9	2230	*33,500	17.40

Minimum discharge, 31 ft³/s Oct. 5.

DISCHARGE (CUBIC FEET/SECOND) WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	46	71	1350	250	400	706	1380	8410	1670	553	274	84
2	44	85	825	250	600	704	1250	7340	1380	529	231	78
3	40	94	626	280	850	685	4580	5150	1220	505	203	76
4	36	445	573	300	700	685	7230	3070	1070	875	177	83
5	36	351	603	325	600	713	4560	2370	998	700	165	86
6	34	624	519	350	450	688	2730	2170	921	535	154	82
7	38	563	371	400	700	667	1930	1860	966	494	145	80
8	38	338	536	350	966	643	4590	1560	8090	425	142	94
9	38	279	600	325	783	563	7190	1340	18400	325	141	107
10	37	1150	548	300	663	521	5220	1180	18500	282	135	105
11	48	3120	1110	250	668	529	3470	1070	8030	288	134	118
12	69	1810	1830	250	2970	509	7500	1010	6700	256	127	109
13	65	894	1240	250	4200	514	5110	5890	6780	224	141	107
14	66	579	823	240	3340	519	3310	2500	4630	206	118	100
15	75	533	541	240	2310	1110	2650	1450	7090	197	105	90
16	80	695	525	250	1810	2430	2320	1100	8380	190	113	98
17	74	492	500	220	1890	1630	1900	922	7750	265	102	84
18	69	363	450	200	1950	2420	1580	806	7540	602	107	70
19	73	309	400	175	3210	1560	1360	791	4270	248	114	69
20	112	269	380	150	4230	1560	1200	9260	2350	200	110	74
21	121	365	350	140	2390	2240	4740	7070	1730	190	101	73
22	128	791	300	150	1550	3440	8800	3950	1420	180	104	81
23	130	522	275	150	1230	5260	7500	8350	1290	180	97	74
24	141	890	230	155	1050	5870	6000	5270	1080	180	123	63
25	115	[illegible]030	200	225	903	6090	3390	3790	942	334	111	49
26	[illegible]5	795	200	350	807	3920	2350	8000	828	498	109	46
27	[illegible]8	1100	225	325	764	6180	4750	6760	752	421	109	58
28	[illegible]7	4310	220	350	739	5990	5570	6510	690	812	109	66
29	74	5020	200	350	717	3790	5530	5360	642	700	98	54
30	70	2870	210	330	---	2370	12200	3280	587	592	82	50
31	68	---	225	300	---	1710	---	2150	---	360	72	---
TOTAL	2259	30757	16985	8180	43440	66216	131890	119739	126696	12346	4053	2408
MEAN	72.9	1025	548	264	1498	2136	4396	3863	4223	398	131	80.3
MAX	141	5020	1830	400	4230	6180	12200	9260	18500	875	274	118
MIN	34	71	200	140	400	509	1200	791	587	180	72	46

CAL YR 1983	TOTAL	430246	MEAN	1179	MAX	11100	MIN 34
WTR YR 1984	TOTAL	564969	MEAN	1544	MAX	18500	MIN 34

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06899620 THOMPSON RIVER NEAR CHILLICOTHE, MO--Continued

WATER QUALITY RECORDS

LOCATION.--Lat 39°49'46", long 93°36'24", in SE¼NE¼NW¼ sec.21, T.58 N., R.24 W., Livingston County, Hydrologic Unit 10280102, at bridge on State Highway 190, 3.0 mi northwest of Chillicothe.

PERIOD OF RECORD.--November 1968 to July 1975, November 1983 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	TIME	STREAM-FLOW INSTAN-TANEOUS (CFS) (00061)	SPE-CIFIC CON-DUCT-ANCE (UMHOS) (00095)	PH (STAND-ARD UNITS) (00409)	TEMPER-ATURE (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L) (00340)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./100 ML) (31625)	HARD-NESS (MG/L AS CACO3) (00900)
NOV										
22...	1260	500	421	8.0	11.0	10.0	91	--	540	210
DEC										
14...	1130	1000	350	7.8	.5	12.6	88	30	1100	--
JAN										
11...	1115	1800	444	7.4	.5	11.4	78	26	280	220
FEB										
15...	1115	2500	226	7.5	4.5	10.8	83	79	1300	--
MAR										
14...	1100	800	481	8.1	4.0	13.0	97	14	760	--
APR										
11...	1200	8000	285	7.9	9.0	9.4	82	190	1700	120
MAY										
16...	1100	1230	375	7.9	18.5	9.0	94	38	1500	--
JUN										
13...	1100	5550	200	7.7	24.0	6.0	70	150	21000	--
JUL										
25...	1345	307	430	7.7	31.5	9.6	128	36	100	200
AUG										
22...	1430	250	490	8.3	29.5	6.8	87	80	34	--
SEP										
18...	1530	200	480	8.2	23.0	9.0	103	30	100	--

DATE	HARD-NESS, NONCAR-BONATE (MG/L CACO3) (00902)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ALKA-LINITY FIELD (MG/L AS CACO3) (00410)	CARBON DIOXIDE DIS-SOLVED (MG/L AS CO2) (00405)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)
NOV										
22...	67	62	13	13	5.2	142	2.7	54	10	.20
DEC										
14...	--	--	--	--	--	109	3.3	--	--	--
JAN										
11...	65	66	13	13	4.6	154	12	66	12	.20
FEB										
15...	--	--	--	--	--	79	4.8	--	--	--
MAR										
14...	--	--	--	--	--	173	2.6	--	--	--
APR										
11...	30	36	7.6	6.9	3.5	91	2.2	31	6.7	.20
MAY										
16...	--	--	--	--	--	147	3.6	--	--	--
JUN										
13...	--	--	--	--	--	76	2.9	--	--	--
JUL										
25...	28	59	13	12	4.3	173	6.7	34	9.9	.30
AUG										
22...	--	--	--	--	--	206	2.0	--	--	--
SEP										
18...	--	--	--	--	--	186	2.3	--	--	--

06899620 THOMPSON RIVER MEAR CHILLICOTHE, MO--Continued

DATE	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L) (00530)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	PHOS-PHORUS, TOTAL (MG/L AS P) (00665)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD) (01027)	CADMIUM DIS-SOLVED (UG/L AS CD) (01025)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)
NOV 22...	277	176	2.4	.050	.240	<1	<1	12	2	5800
DEC 14...	--	118	3.2	.030	.150	--	--	--	--	--
JAN 11...	300	50	2.6	.250	.100	<1	<1	9	3	1600
FEB 15...	--	1100	2.7	.710	.750	--	--	--	--	--
MAR 14...	--	71	1.3	.110	.080	--	--	--	--	--
APR 11...	183	682	2.6	.090	.800	<1	<1	27	4	23000
MAY 16...	--	312	1.6	.040	.190	--	--	--	--	--
JUN 13...	--	1950	2.8	.030	.900	--	--	--	--	--
JUL 25...	253	95	.50	.040	.250	<1	2	5	5	2700
AUG 22...	--	50	<.10	.020	.180	--	--	--	--	--
SEP 18...	--	42	<.10	<.010	.110	--	--	--	--	--

DATE	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB) (01051)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG) (71900)	MERCURY DIS-SOLVED (UG/L AS HG) (71890)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN) (01092)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)
NOV 22...	16	5	<1	560	29	.1	.1	40	25
DEC 14...	--	--	--	--	--	--	--	--	--
JAN 11...	54	3	<1	100	51	.1	<.1	30	18
FEB 15...	--	--	--	--	--	--	--	--	--
MAR 14...	--	--	--	--	--	--	--	--	--
APR 11...	15	17	<1	640	7	.3	.3	70	34
MAY 16...	--	--	--	--	--	--	--	--	--
JUN 13...	--	--	--	--	--	--	--	--	--
JUL 25...	48	3	<1	390	49	.1	--	<10	9
AUG 22...	--	--	--	--	--	--	--	--	--
SEP 18...	--	--	--	--	--	--	--	--	--

06900000 MEDICINE CREEK NEAR GALT, MO

LOCATION.--Lat 40°17'45", long 93°21'45", in SW¼NW¼ sec.34, T.62 N., R.22 W., Sullivan County, Hydrologic Unit 10280103, on left bank 15 ft upstream from bridge on State Highway 6, 1.2 mi east of Galt, 2 mi upstream from West Medicine Creek, and at mile 32.0.

DRAINAGE AREA.--225 mi².

PERIOD OF RECORD.--July 1921 to September 1975, October 1977 to current year. Monthly discharge only for some periods, published in WSP 1310.

REVISED RECORDS.--WSP 1240: 1926. WSP 1730: 1948(M).

GAGE.--Water-stage recorder and nonrecording gage. Datum of gage is 767.48 ft National Geodetic Vertical Datum of 1929. Prior to Dec. 3, nonrecording gage at site 150 ft downstream at following datums: prior to Oct. 1, 1924, at datum .97 ft higher; Oct. 1, 1924 to Sept. 30, 1926, at datum 4.97 ft higher; Oct. 1, 1926 to Dec. 2, 1934, at datum 1.97 ft higher; Dec. 3, 1934, to Apr. 25, 1956, nonrecording gage, and Apr. 26 to Sept. 30, 1956; water-stage recorder at site 30 ft downstream at datum 2.00 ft higher; Oct. 1, 1956 to Apr. 5, 1969, water-stage recorder at site 30 ft downstream at present datum; Apr. 6, 1969 to July 24, 1975, water-stage recorder; July 25, 1975 to Aug. 21, 1978, nonrecording gage at same site and datum.

REMARKS.--Records poor. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--61 years (water year 1922-75, 78-84), 146 ft³/s, 8.81 in/yr, 105,800 acre-ft.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 24,200 ft³/s June 6, 1947, gage height, 20.9 ft, present datum, from floodmark; no flow at times in 1934, 1936-37, 1940, 1954, 1956.

EXTREMES OUTSIDE PERIOD OF RECORD.--Discharge of 8,000 ft³/s was determined for flood of July 1909 by Corps of Engineers.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 3,000 ft³/s and maximum (*):

Date	Time	Discharge (ft³/s)	Gage height (ft)
Apr. 22	0700	3,760	6.68
Apr. 30	0645	6,820	10.62
June 8	0215	4,790	7.89
June 9	2300	*7,610	11.68

Minimum discharge, 0.40 ft³/s Sept. 22.

DISCHARGE (CUBIC FEET/SECOND) WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.8	4.8	77	23	150	23	81	980	52	18	6.0	1.2
2	3.4	6.2	73	24	300	23	72	295	38	16	4.8	2.0
3	3.4	9.0	51	26	531	22	854	264	27	15	4.7	3.5
4	2.0	55	39	28	555	28	1180	237	18	23	4.7	2.6
5	1.2	41	53	30	390	38	358	172	15	18	5.2	2.0
6	1.2	74	45	32	246	39	172	146	13	16	5.1	2.0
7	2.6	110	17	35	219	27	128	110	86	17	4.6	2.0
8	4.8	140	27	33	204	18	1100	87	2200	18	4.3	3.4
9	10	150	38	31	180	9.0	1310	70	4240	16	5.1	6.8
10	12	266	22	30	180	13	494	61	5850	15	5.1	12
11	22	333	525	29	205	24	287	56	961	22	4.7	19
12	24	81	1200	30	397	12	708	58	312	15	4.8	13
13	22	38	480	29	600	15	708	1140	196	13	5.0	8.9
14	26	21	295	28	250	29	293	464	133	13	4.1	7.3
15	28	19	92	28	139	167	349	134	181	13	4.0	8.3
16	30	29	80	30	127	361	266	82	203	12	3.8	4.2
17	20	18	60	28	135	234	150	63	208	21	3.4	2.0
18	4.8	11	50	25	141	215	101	51	116	21	4.1	1.2
19	6.2	11	40	20	239	178	75	111	86	15	5.0	1.2
20	7.6	7.3	32	15	227	218	62	424	68	12	4.6	2.0
21	34	5.5	30	15	109	218	985	284	63	12	4.0	.75
22	45	38	28	16	86	527	2850	127	59	9.8	5.2	1.2
23	43	146	25	16	71	907	760	225	50	9.4	4.0	2.8
24	32	212	22	17	61	2030	349	191	40	9.4	3.9	3.5
25	24	162	20	30	50	1810	200	289	34	9.0	4.5	6.0
26	18	75	20	50	45	758	131	488	31	11	4.8	3.7
27	8.7	224	22	80	38	1240	98	251	26	28	4.6	6.0
28	7.6	531	22	80	53	662	76	222	22	60	4.1	7.3
29	6.2	419	20	75	25	324	919	329	22	26	3.6	6.8
30	4.8	146	21	75	---	156	5040	126	20	13	2.4	5.2
31	3.4	---	22	70	---	104	---	72	---	8.7	2.0	---
TOTAL	462.1	3382.8	3548	1078	5933	10429.0	20156	7609	15370	525.3	136.2	147.85
MEAN	14.9	113	114	34.8	205	336	672	245	512	16.9	4.39	4.93
MAX	45	531	1200	80	600	2030	5040	1140	5850	60	6.0	19
MIN	1.2	4.8	17	15	25	9.0	62	51	13	8.7	2.0	.75

CAL YR 1983	TOTAL	59689.0	MEAN	164	MAX	2940	MIN	1.2
WTR YR 1984	TOTAL	68777.25	MEAN	188	MAX	5850	MIN	.75

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06902900 GRAND RIVER NEAR SUMNER, MO

LOCATION.--Lat 39°38'25", long 93°16'25", in NE¼ sec.29, T.56 N., R.21 W., Livingston County, Hydrologic Unit 10280103, near right bank on downstream side of pier of bridge on State Highway 139, 240 ft downstream from Chicago, Burlington and Quincy Railroad bridge, 2 mi southwest of Sumner, 2.5 mi downstream from Locust Creek, and at mile 41.0.

DRAINAGE AREA.--6,880 mi², approximately.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1923 to current year. Prior to April 1924 monthly discharge only, published in WSP 1310.

GAGE.--Water-stage recorder. Datum of gage is 631.18 ft National Geodetic Vertical Datum of 1929. Prior to July 11, 1926, nonrecording gage at site 200 ft upstream at same datum. July 11, 1926, to July 9, 1939, nonrecording gage at same site and datum. July 10, 1939, to Aug. 8, 1952, water-stage recorder at site 200 ft upstream at same datum. Aug. 9, 1952, to Nov. 12, 1953, nonrecording gage at site 120 ft upstream and at same datum. Nov. 13, 1953, to July 6, 1964, water-stage recorder and nonrecording gage for stages below 8 3 ft at site 120 ft upstream and at same datum. July 7, 1964, to May 26, 1965, nonrecording gage at present site and datum. Auxiliary water-stage recorder at site 3.2 mi downstream from base gage at datum 631.30 ft National Geodetic Vertical Datum of 1929. Mar. 15, 1939, to Aug. 4, 1942, auxiliary nonrecording gage at various sites. Aug. 5, 1942, to Dec. 14, 1956, auxiliary nonrecording gage at present site.

REMARKS.--Water-discharge records fair.

AVERAGE DISCHARGE.--61 years, 3,896 ft³/s, 7.69 in/yr, 2,824,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 180,000 ft³/s June 7, 8, 1947, gage height, 39.5 ft from floodmark; minimum observed, 10 ft³/s Aug. 12, 1934; minimum gage height, 2.19 ft Aug. 22, 23, 31, Sept. 1, 1936.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of July 9, 1909, reached a stage of 36.7 ft from floodmark.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 38,000 ft³/s and maximum (*):

Date	Time	Discharge (ft³/s)	Gage height (ft)
May 1	2000	40,700	33.16
June 11	1200	*77,900	37.68

Minimum discharge, 106 ft³/s Sept. 27.

DISCHARGE (CUBIC FEET/SECOND) WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	132	226	5760	1070	5000	2020	4640	40400	4500	2200	854	190
2	126	275	2910	1070	4400	1800	4040	35000	3720	1970	708	250
3	125	568	2260	1090	4100	1610	4840	18500	3110	1880	621	320
4	119	3490	1550	1110	5800	1590	24400	10700	2760	1870	575	280
5	129	2960	1720	1060	6500	1980	24700	6730	2440	1980	535	260
6	112	1890	2000	1190	5500	2490	14900	6840	2260	9550	500	250
7	111	1380	1780	1570	4800	2030	7030	6050	2610	5980	479	300
8	116	1390	1350	2400	4200	1650	13900	5320	24800	2670	458	280
9	114	993	1130	3530	3800	1680	24700	4350	42800	2060	423	270
10	112	1260	1110	3920	3500	1560	25600	3740	62500	1690	391	270
11	122	2540	1930	3500	3200	1470	17200	3290	77900	1580	383	260
12	169	5880	11800	2500	2790	1510	20300	3070	73300	1560	373	250
13	184	3890	9450	2200	5390	1580	30500	7720	58400	1610	360	230
14	177	2270	4990	1900	7230	1620	24200	13600	35400	1330	340	220
15	166	1530	2700	1600	5820	3040	10000	15600	30700	1140	327	200
16	168	1200	2120	1400	4280	11800	6700	6400	37400	1040	311	190
17	187	1210	1990	1300	3750	13400	7150	4260	37700	974	292	180
18	190	1070	2400	1200	3860	12800	5730	3440	33700	929	288	175
19	188	917	2340	1100	4820	13400	4770	2820	22500	1150	283	157
20	202	808	2570	1000	7360	10400	4060	10900	12800	1170	270	147
21	230	690	2520	950	7830	13700	6430	22000	8070	979	270	135
22	300	692	2260	900	5470	17100	27300	12100	6240	884	246	130
23	428	2490	2090	850	3500	21300	31100	9750	8550	812	241	125
24	440	4360	1870	850	2880	22000	27600	9200	14000	758	230	124
25	433	2790	1720	800	2420	25600	14400	8750	6120	705	200	121
26	408	2330	1560	932	2200	20000	6680	10200	4460	661	210	117
27	332	3620	1390	1290	2120	21100	5740	14600	3650	811	210	110
28	280	13000	1310	2080	2310	22400	9090	19000	3020	793	200	114
29	247	15000	1240	2980	2370	13000	7760	16300	2590	1100	200	115
30	233	10300	1170	5190	---	9790	34800	9420	2400	1000	190	115
31	226	---	1100	6400	---	6560	---	6580	---	1080	190	---
TOTAL	6506	91019	82090	58932	127200	281980	450260	346630	630400	53916	11158	5885
MEAN	210	3034	2648	1901	4386	9096	15010	11180	21010	1739	360	196
MAX	440	15000	11800	6400	7830	25600	34800	40400	77900	9550	854	320
MIN	111	226	1100	800	2120	1470	4040	2820	2260	661	190	110

CAL YR 1983	TOTAL	1444902	MEAN	3959	MAX	51400	MIN	105
WTR YR 1984	TOTAL	2145976	MEAN	5863	MAX	77900	MIN	110

06902000 GRAND RIVER NEAR SUMNER, MO.--Continued
(National stream-quality accounting network station)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--August 1962 to June 1963 and August 1967 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: January 1974 to September 1981.
WATER TEMPERATURE: January 1974 to September 1981.

WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS) (00061)	SPECIFIC CONDUCTANCE (UMHOS) (00095)	PH (STANDARD UNITS) (00400)	TEMPERATURE (DEG C) (00010)	TURBIDITY (NTU) (00076)	OXYGEN, DISSOLVED (MG/L) (00300)	OXYGEN, DISSOLVED (PERCENT SATURATION) (00301)	COLIFORM, FECAL, 0.7 UM-MF (COLS./100 ML) (31625)	STREPTOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)
OCT										
12...	1415	182	450	8.1	15.5	5.5	10.6	105	340	630
NOV										
22...	1000	632	411	7.8	10.0	24	10.4	92	420	2400
DEC										
14...	0945	5100	285	7.9	.5	120	13.0	91	3800	25000
JAN										
11...	0900	3500	438	7.8	.5	27	12.6	85	2100	6100
FEB										
15...	0900	5960	280	7.5	4.5	550	11.8	90	1900	16000
MAR										
14...	0930	1600	478	8.0	4.0	21	12.6	94	1800	1000
APR										
11...	1000	18200	261	7.7	9.0	230	9.2	79	2200	5200
MAY										
16...	1415	4780	235	7.6	18.0	280	7.5	78	5200	2200
JUN										
13...	0930	60900	188	7.6	23.5	150	4.4	51	4600	4600
JUL										
25...	1630	682	483	8.2	32.0	33	7.4	99	70	220
AUG										
22...	1545	246	502	8.3	29.0	17	9.2	117	10	24
SEP										
19...	1500	161	495	8.2	22.5	24	9.8	111	220	340

DATE	HARDNESS (MG/L AS CACO3) (00900)	HARDNESS, NONCARBONATE (MG/L CACO3) (00902)	CALCIUM DISSOLVED (MG/L AS CA) (00915)	MAGNESIUM, DISSOLVED (MG/L AS MG) (00925)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	PERCENT SODIUM (00932)	SODIUM ADSORPTION RATIO (00931)	POTASSIUM, DISSOLVED (MG/L AS K) (00935)	ALKALINITY FIELD (MG/L AS CACO3) (00410)	SULFATE DISSOLVED (MG/L AS SO4) (00945)
OCT										
12...	220	23	66	14	19	15	.6	3.1	200	36
NOV										
22...	180	42	54	11	12	12	.4	5.2	139	49
DEC										
14...	120	47	38	7.3	8.0	12	.3	3.7	78	50
JAN										
11...	190	49	57	11	13	13	.4	4.2	139	63
FEB										
15...	120	35	37	7.5	7.2	11	.3	3.4	88	88
MAR										
14...	220	46	66	13	14	12	.4	2.8	173	66
APR										
11...	130	41	37	8.2	7.5	11	.3	3.3	85	32
MAY										
16...	110	14	32	6.1	5.6	10	.2	3.2	91	24
JUN										
13...	85	17	26	4.9	3.7	8	.2	3.8	68	24
JUL										
25...	240	45	71	14	12	10	.4	3.8	191	34
AUG										
22...	240	24	73	14	15	12	.4	3.7	216	41
SEP										
19...	200	8	60	13	15	14	.5	3.2	196	42

06902000 GRAND RIVER NEAR SUMNER, MO--Continued

DATE	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)	FLUORIDE, DISSOLVED (MG/L AS F) (00950)	SILICA, DISSOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L) (70301)	SOLIDS, DISSOLVED (TONS PER AC-FT) (70303)	SOLIDS, DISSOLVED (TONS PER DAY) (70302)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N) (00631)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N) (00608)
OCT									
12...	12	.20	11	279	280	.38	137	<.10	.020
NOV									
22...	11	.20	12	257	240	.35	439	2.2	.090
DEC									
14...	8.0	.20	9.0	194	170	.26	2670	2.8	.260
JAN									
11...	11	.20	11	270	250	.37	2550	2.5	.230
FEB									
15...	7.7	.20	8.4	240	210	.33	3860	2.3	.390
MAR									
14...	11	.20	8.7	299	290	.41	1290	1.1	.070
APR									
11...	6.1	.20	8.9	173	150	.24	8500	2.1	.080
MAY									
16...	4.7	.30	7.1	133	140	.18	1720	1.1	.120
JUN									
13...	3.5	.30	8.4	136	120	.19	22400	2.2	.060
JUL									
25...	9.1	.30	12	294	270	.40	541	.37	.050
AUG									
22...	11	.30	13	309	300	.42	205	<.10	.020
SEP									
19...	9.7	.20	8.8	290	270	.39	126	<.10	.010

DATE	NITROGEN, AMMONIA DISSOLVED (MG/L AS NH4) (71846)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N) (00625)	PHOSPHORUS, TOTAL (MG/L AS P) (00665)	PHOSPHORUS TOTAL (MG/L AS PO4) (71886)	PHOSPHORUS, DISSOLVED (MG/L AS P) (00666)	PHOSPHORUS, ORTHO, DISSOLVED (MG/L AS P) (00671)	SEDIMENT, SUSPENDED (MG/L) (80154)	SEDIMENT, DISCHARGE, SUSPENDED (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. %FINER THAN .062 MM (70331)
OCT									
12...	.03	1.3	.150	.46	.010	.010	29	14	85
NOV									
22...	.12	1.4	.130	.40	.030	.020	76	130	93
DEC									
14...	.33	1.8	.320	.98	.030	.060	326	4490	84
JAN									
11...	.30	1.6	.110	.34	.040	.030	78	737	89
FEB									
15...	.50	3.5	.970	3.0	.030	.030	1340	21600	73
MAR									
14...	.09	.80	.070	.21	.010	.030	86	372	94
APR									
11...	.10	3.5	.850	2.6	.040	.030	892	43800	97
MAY									
16...	.15	2.5	.300	.92	.050	.040	2340	30200	88
JUN									
13...	.08	4.0	.450	--	.040	.030	1380	227000	92
JUL									
25...	.06	1.4	.210	--	.050	.050	160	295	88
AUG									
22...	.03	.90	.160	--	.030	.040	101	67	70
SEP									
19...	.01	.80	.150	--	.020	.020	104	45	66

DATE	ALUMINUM, DISSOLVED (UG/L AS AL) (01106)	ARSENIC DISSOLVED (UG/L AS AS) (01000)	BARIUM, DISSOLVED (UG/L AS BA) (01005)	BERYLLIUM, DISSOLVED (UG/L AS BE) (01010)	CADMIUM DISSOLVED (UG/L AS CD) (01025)	CHROMIUM, DISSOLVED (UG/L AS CR) (01030)	COBALT, DISSOLVED (UG/L AS CO) (01035)	COPPER, DISSOLVED (UG/L AS CU) (01040)	IRON, DISSOLVED (UG/L AS FE) (01046)	LEAD, DISSOLVED (UG/L AS PB) (01049)
NOV										
22...	<10	<1	130	<.5	<1	<1	<3	2	13	<1
JAN										
11...	60	<1	110	.5	<1	<1	<3	3	55	<1
MAY										
16...	50	<1	83	<1.0	<1	<1	<3	3	44	<1
JUL										
25...	10	1	140	1.0	<1	<1	<3	4	6	<1

06902000 GRAND RIVER NEAR SUMNER, MO--Continued

DATE	LITHIUM DIS-SOLVED (UG/L AS LI) (01130)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	MERCURY DIS-SOLVED (UG/L AS HG) (71890)	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO) (01060)	NICKEL, DIS-SOLVED (UG/L AS NI) (01065)	SELE-NIUM, DIS-SOLVED (UG/L AS SE) (01145)	SILVER, DIS-SOLVED (UG/L AS AG) (01075)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)	VANA-DIUM, DIS-SOLVED (UG/L AS V) (01085)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)
NOV										
22...	12	85	<.1	<10	5	1	<1	210	<6	120
JAN										
11...	10	74	<.1	<10	5	1	<1	200	<6	37
MAY										
16...	6	6	<.1	<10	5	<1	<1	120	<6	10
JUL										
25...	14	49	<.1	<10	7	<1	<1	280	<6	4

06904050 CHARITON RIVER AT LIVONIA, MO

LOCATION.--Lat 40°29'00", long 92°41'10", in NW¼SE¼NW¼ sec. 34, T.66 N., R.16 W., Schuyler County, Hydrologic Unit 10280201, on left bank 10 ft downstream from bridge on U.S. Highway 136, 1 mi upstream from Shoal Creek, and 0.5 mi east of Livonia.

DRAINAGE AREA.--864 mi².

PERIOD OF RECORD.--May 1974 to current year. Occasional discharge measurements were made from October 1962 to May 1974.

REVISED RECORDS.--WDR MO-83-1: 1981.

GAGE.--Water-stage recorder. Datum of gage is 770.00 ft National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair except those for winter period, which are poor. Several observations of water temperature were made during the year. Flow regulated by Rathbun Lake.

AVERAGE DISCHARGE.--10 years, 714 ft³/s, 517,300 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,170 ft³/s Apr. 3, 1983; maximum gage height, 24.26 ft July 4, 1974; minimum, 13 ft³/s Jan. 11 to Feb. 9, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 5,020 ft³/s June 9; gage height, 19.96 ft; minimum, 24 ft³/s Oct. 31.

DISCHARGE (CUBIC FEET/SECOND) WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	33	32	292	260	300	1270	1390	2470	966	727	65	32
2	33	83	214	270	290	1260	1400	1560	946	715	50	29
3	33	274	191	280	280	1260	1730	2590	934	909	42	31
4	31	217	175	290	270	1270	2230	1460	923	1250	39	34
5	30	208	170	300	260	1290	1800	774	830	1270	50	39
6	28	161	156	310	250	1290	1340	1200	290	1270	48	38
7	28	90	135	320	260	1260	1430	1150	163	1270	46	38
8	28	57	151	320	300	1250	2120	1070	1130	1270	45	36
9	28	196	148	310	325	1240	2470	1030	2930	1270	44	39
10	28	1510	419	300	350	881	2110	1010	4310	1280	43	46
11	31	1840	1300	290	500	239	1530	995	3150	1330	42	57
12	38	660	2210	300	800	146	1410	992	2710	1310	41	53
13	38	267	1400	290	1070	129	1610	1100	1220	1270	40	51
14	39	187	633	290	723	133	1350	978	544	1250	40	44
15	38	162	831	280	539	205	1430	956	850	1600	40	44
16	35	134	925	290	507	468	1660	926	624	1110	40	40
17	33	107	600	280	556	380	1300	907	585	534	39	39
18	33	91	400	260	803	330	1110	907	831	1180	39	38
19	34	87	300	250	1740	294	1040	905	832	1190	39	37
20	56	86	280	240	1840	353	1010	826	804	1180	39	37
21	147	83	270	240	1590	668	1020	636	780	1170	39	36
22	114	105	260	250	1450	783	1590	743	762	1180	38	36
23	83	606	250	250	1400	1460	1340	963	757	1170	38	35
24	60	1060	240	260	1360	2740	1090	964	752	1190	38	35
25	43	649	240	270	1340	2740	1140	1030	742	1030	38	35
26	34	314	250	280	1320	2020	1090	1070	734	890	38	34
27	28	1040	250	300	1310	1890	1050	1070	746	861	38	32
28	27	2580	240	300	1290	2080	1020	1070	734	711	38	30
29	26	1880	240	290	1270	1530	1110	934	729	656	38	31
30	25	689	240	290	---	1130	2560	1050	729	494	36	32
31	25	---	250	280	---	1220	---	998	---	140	34	---
TOTAL	1287	15455	13660	8740	24293	33209	44480	34334	33037	32677	1284	1138
MEAN	41.5	515	441	282	838	1071	1483	1108	1101	1054	41.4	37.9
MAX	147	2580	2210	320	1840	2740	2560	2590	4310	1600	65	57
MIN	25	32	135	240	250	129	1010	636	163	140	34	29

CAL YR 1983	TOTAL	323428	MEAN	886	MAX	6050	MIN	25
WTR YR 1984	TOTAL	243594	MEAN	666	MAX	4310	MIN	25

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06904500 CHARITON RIVER AT NOVINGER, MO

LOCATION.--Lat 40°14'05", long 92°41'14", on south line of SE¼NE¼ sec. 28, T.63 N., R.16 W., Adair County, Hydrologic Unit 10280202, on right bank at the downstream side of center pier on bridge on State Highway 6, 0.6 mi east of Novinger, 1 mi downstream from Rye Creek, 2 mi upstream from Spring Creek, and at mile 73.1.

DRAINAGE AREA.--1,370 mi², approximately.

PERIOD OF RECORD.--October 1930 to September 1952. October 1954 to current year. Prior to February 1931 monthly discharge only, published in WSP 1310.

REVISED RECORDS.--WSP 896: 1939. WSP 1116: 1932(M).

GAGE.--Water-stage recorder. Datum of gage is 737.65 ft National Geodetic Vertical Datum of 1929. Prior to Dec. 20, 1939, nonrecording gage at bridge over old channel, 500 ft east, at same datum. Dec. 20, 1939, to Sept. 30, 1952 and Oct. 1, 1954, to Aug. 1, 1956, water-stage recorder, supplemented by nonrecording gage, at same site and datum. Aug. 2, 1956, to May 16, 1957, nonrecording gage at present site and datum.

REMARKS.--Records fair. Several observations of water temperature were made during the year. Some regulation by Rathbun Lake.

AVERAGE DISCHARGE.--52 years, 832 ft³/s, 8.25 in/yr, 602,800 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 22,900 ft³/s June 7, 13, 1947, gage height, 28.50 ft; minimum, 0.1 ft³/s Aug. 31, Sept. 1, 1936.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known, 28.6 ft in June 1917.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 8,000 ft³/s and maximum (*):

Date	Time	Discharge (ft³/s)	Gage height (ft)
Nov. 27	2230	8,020	14.25
Dec. 11	2000	8,100	14.27
Mar. 24	1845	9,650	15.20
June 9	2030	*11,400	17.05

Minimum daily discharge, 35 ft³/s Oct. 6-10.

DISCHARGE (CUBIC FEET/SECOND) WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	40	69	619	320	350	1530	2120	4000	1370	898	237	43
2	40	171	474	330	340	1530	2080	2830	1310	891	169	41
3	40	259	387	340	330	1530	3180	5620	1270	962	148	41
4	38	679	363	350	320	1570	4440	3560	1240	1480	131	43
5	37	316	383	360	310	1670	3180	1650	1230	1560	143	48
6	35	291	352	370	300	1600	2100	1800	789	1570	122	48
7	35	204	256	380	310	1540	1980	1740	497	1570	106	46
8	35	141	294	380	350	1520	5200	1550	5470	1560	103	50
9	35	356	317	370	400	1500	5290	1430	7720	1560	96	51
10	35	3890	319	360	500	1350	3660	1370	10300	1570	91	64
11	38	2900	4550	350	700	552	2600	1380	6300	1750	87	123
12	45	1290	5100	360	1100	284	2750	1400	4490	1670	81	77
13	119	479	2780	350	1570	263	2780	2040	2570	1590	77	69
14	133	320	1250	350	1320	303	2160	1650	1220	1570	73	65
15	131	265	984	340	990	1750	2300	1470	1350	2040	72	63
16	48	232	1080	350	929	2790	2610	1340	1330	1990	68	53
17	43	187	894	340	1050	1270	2000	1250	955	764	68	48
18	43	159	422	320	1190	993	1630	1220	1120	1400	67	46
19	45	139	380	310	2860	957	1480	1120	1140	1550	66	44
20	80	125	350	300	2720	1080	1400	1060	1060	1550	63	43
21	159	121	340	300	2210	1270	1660	1200	1020	1560	62	43
22	202	338	320	310	1910	1920	4230	1300	1030	1540	58	41
23	143	3990	310	310	1800	4110	2670	1430	1020	1530	55	42
24	97	2220	300	330	1720	7500	1830	1380	986	1530	55	42
25	70	1240	300	345	1670	5910	1710	1920	954	1620	55	42
26	61	584	310	350	1640	4340	1520	1700	931	1660	53	39
27	64	4300	310	350	1610	4730	1470	1800	986	1540	51	43
28	141	5710	300	350	1570	4350	1400	2740	934	1100	50	42
29	64	3150	300	340	1540	3180	2260	1790	912	964	47	42
30	53	1380	300	340	---	2180	5660	1590	902	873	43	43
31	52	---	310	330	---	1980	---	1460	---	478	43	---
TOTAL	2201	35505	24954	10585	33609	67052	79350	57790	62406	43890	2640	1525
MEAN	71.0	1184	805	341	1159	2163	2645	1864	2080	1416	85.2	50.8
MAX	202	5710	5100	380	2860	7500	5660	5620	10300	2040	237	123
MIN	35	69	256	300	300	263	1400	1060	497	478	43	39

CAL YR 1983	TOTAL	482979	MEAN	1323	MAX	16200	MIN	35
WTR YR 1984	TOTAL	421507	MEAN	1152	MAX	10300	MIN	35

06905500 CHARITON RIVER NEAR PRAIRIE HILL, MO

LOCATION.--Lat 39°32'25", long 92°47'23", in NW¼SW¼ sec. 26, T.55 N., R.17 W., Chariton County, Hydrologic Unit 10280202, on right bank on downstream side of road at bridge on State Highway 129, 3.2 mi northwest of Prairie Hill, 13.5 mi upstream from Puzzle Creek, and at mile 19.6.

DRAINAGE AREA.--1,870 mi², approximately.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1928 to current year. Prior to Oct. 1, 1953, published as "near Keytesville". Prior to May 1929, monthly discharge only, published in WSP 1309.

GAGE.--Water-stage recorder. Datum of gage is 632.05 ft National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers). Prior to Oct. 1, 1953, nonrecording gage at site 8.2 mi downstream at datum 13.68 ft lower. Oct. 1, 1953, to July 2, 1958, nonrecording gage at present site and datum.

REMARKS.--Records poor. Some regulation by Rathbun lake.

AVERAGE DISCHARGE.--56 years, 1,219 ft³/s, 8.85 in/yr, 883,200 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 31,900 ft³/s Apr. 23, 1973, gage height, 21.96 ft; maximum gage height, 25.3 from floodmark, at site and datum then in use, June 8, 9, 1947; minimum, 4.6 ft³/s Aug. 7, 9, 10, 1934.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 9,000 ft³/s and maximum (*):

Date	Time	Discharge (ft³/s)	Gage height (ft)
Nov. 23	2215	10,200	12.73
Nov. 28	--	12,600	--
May 4	--	9,520	--
May 14	0045	11,900	13.69
May 20	1300	13,000	14.25
June 9	unknown	*26,000	19.75
June 15	1830	11,100	13.13

Minimum daily discharge, 50 ft³/s Oct. 6-10.

DISCHARGE (CUBIC FEET/SECOND) WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	57	57	1680	370	390	1750	2500	6870	1470	1000	520	52
2	56	139	839	380	380	1740	2400	4840	1310	967	313	52
3	56	400	650	390	370	1740	4000	5830	1210	963	208	52
4	55	1500	600	400	360	1800	5000	8800	1150	1050	166	54
5	53	775	850	410	350	1900	4000	4330	1100	1580	147	52
6	50	398	775	420	340	1850	3000	2480	1070	1660	149	53
7	50	315	613	430	350	1800	2500	2050	746	1650	129	53
8	50	259	480	430	400	1750	6000	1910	7600	1600	123	75
9	50	257	397	420	500	1700	6500	1640	12100	1600	114	73
10	50	2530	379	410	600	1550	5000	1470	22400	1590	115	68
11	55	5650	5000	400	1000	1000	3000	1390	14400	1620	108	128
12	67	3090	7500	410	1500	500	3100	1360	8320	1810	100	197
13	100	1420	5000	390	2000	350	3200	5400	5640	1700	97	137
14	150	674	3000	390	1700	600	2500	8550	3280	1580	90	98
15	145	480	1450	380	1400	1500	2700	3130	6390	1570	83	86
16	99	389	1600	390	1150	3500	3000	1940	7030	2060	81	80
17	60	339	1400	380	1300	1900	2500	1650	2630	2040	76	78
18	55	301	700	370	1500	1400	2100	1460	1560	870	76	70
19	60	360	500	350	3500	1200	1900	1470	1470	1170	72	62
20	74	337	450	340	3200	1300	1800	10700	1440	1510	70	58
21	176	269	400	340	2800	1500	2000	5590	1330	1530	67	57
22	250	346	380	345	2400	3000	5000	2530	1780	1510	69	56
23	180	6200	370	350	2200	5000	3500	2740	1670	1500	66	55
24	150	7550	360	360	2000	8500	2600	2170	1220	1490	66	53
25	110	3060	360	380	1950	7000	2000	1760	1100	1490	64	52
26	83	1650	370	385	1900	5500	1820	2330	1080	1580	61	52
27	68	4870	370	380	1850	5800	1620	3400	1720	1520	58	60
28	200	11300	350	380	1820	5000	1460	4920	1750	1560	58	54
29	120	6270	350	370	1800	4000	1570	4250	1150	1040	58	55
30	92	3770	350	370	---	3000	7780	2300	1040	859	58	55
31	65	---	360	360	---	2400	---	1600	---	786	52	---
TOTAL	2886	64955	37883	11880	41010	81530	96050	110860	116156	44455	3514	2127
MEAN	93.1	2165	1222	383	1414	2630	3202	3576	3872	1434	113	70.9
MAX	250	11300	7500	430	3500	8500	7780	10700	22400	2060	520	197
MIN	50	57	350	340	340	350	1460	1360	746	786	52	52

CAL YR 1983	TOTAL	680076	MEAN	1863	MAX	29300	MIN	40
WTR YR 1984	TOTAL	613306	MEAN	1676	MAX	22400	MIN	50

06905500 CHARITON RIVER NEAR PRAIRIE HILL, MO.--Continued
(National stream-quality accounting network station)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--August 1962 to June 1963, August 1967 to July 1975, and January 1978 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: March 1978 to September 1981.
WATER TEMPERATURE: March 1978 to September 1981.

WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS) (00061)	SPE-CIFIC CON-DUCT-ANCE (UMHOS) (00095)	PH (STAND-ARD UNITS) (00400)	TEMPER-ATURE (DEG C) (00010)	TUR-BID-ITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./100 ML) (31625)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)
NOV										
21...	1530	266	450	8.0	11.5	16	9.2	84	120	560
JAN										
10...	1345	400	435	7.7	.5	32	14.0	94	500	3600
MAR										
13...	1330	329	397	8.0	3.0	24	13.6	99	8	62
MAY										
16...	1615	1870	335	7.8	18.0	150	9.4	97	K1000	K800
JUL										
26...	0845	1720	267	7.7	27.5	110	6.8	85	260	340
SEP										
20...	0830	53	412	7.8	19.5	15	9.1	97	1000	790

DATE	HARD-NESS (MG/L AS CACO3) (00900)	HARD-NESS, NONCAR-BONATE (MG/L CACO3) (00902)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	PERCENT SODIUM (00932)	SODIUM AD-SORP-TION RATIO (00931)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ALKA-LINITY FIELD (MG/L AS CACO3) (00410)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)
NOV										
21...	240	120	70	15	13	10	.4	4.8	115	120
JAN										
10...	210	120	61	14	12	11	.4	3.6	93	100
MAR										
13...	180	66	52	13	11	11	.4	4.0	118	75
MAY										
16...	160	48	47	9.5	8.3	10	.3	3.1	109	57
JUL										
26...	120	43	35	7.6	7.3	11	.3	3.9	76	29
SEP										
20...	180	25	51	12	12	13	.4	3.9	152	46

DATE	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	SOLIDS, DIS-SOLVED (TONS PER AC-FT) (70303)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)
NOV									
21...	7.8	.20	10	319	310	.43	229	1.8	.060
JAN									
10...	7.5	.20	7.8	290	260	.39	313	1.0	.120
MAR									
13...	7.6	.20	5.5	238	240	.32	211	.79	.040
MAY									
16...	5.5	.20	6.8	194	200	.26	980	1.0	.020
JUL									
26...	6.2	.20	6.4	168	140	.23	780	1.7	.050
SEP									
20...	7.3	.20	6.4	250	230	.34	36	<.10	<.010

K--Results based on colony count outside the acceptable range (non-ideal colony count).

06905500 CHARITON RIVER NEAR PRAIRIE HILL, MO--Continued

DATE	NITROGEN, AMMONIA DISSOLVED (MG/L AS NH4) (71846)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N) (00625)	PHOSPHORUS, TOTAL (MG/L AS P) (00665)	PHOSPHORUS TOTAL (MG/L AS PO4) (71886)	PHOSPHORUS, DISSOLVED (MG/L AS P) (00666)	PHOSPHORUS, ORTHO, DISSOLVED (MG/L AS P) (00671)	SEDIMENT, SUSPENDED (MG/L) (80154)	SEDIMENT, DISCHARGE, SUSPENDED (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
NOV									
21...	.08	1.3	.080	.25	.020	.020	70	50	82
JAN									
10...	.15	1.8	.090	.28	.010	.010	126	136	85
MAR									
13...	.05	.70	.070	.21	<.010	.020	143	127	21
MAY									
16...	.03	1.0	.060	.18	.030	.030	1690	8530	18
JUL									
26...	.06	1.3	.350	--	.050	.040	930	4320	71
SEP									
20...	--	.60	.080	--	.010	<.010	--	--	--

DATE	ALUMINUM, DISSOLVED (UG/L AS AL) (01106)	ARSENIC DISSOLVED (UG/L AS AS) (01000)	BARIUM, DISSOLVED (UG/L AS BA) (01005)	BERYLLIUM, DISSOLVED (UG/L AS BE) (01010)	CADMIUM DISSOLVED (UG/L AS CD) (01025)	CHROMIUM, DISSOLVED (UG/L AS CR) (01030)	COBALT, DISSOLVED (UG/L AS CO) (01035)	COPPER, DISSOLVED (UG/L AS CU) (01040)	IRON, DISSOLVED (UG/L AS FE) (01046)	LEAD, DISSOLVED (UG/L AS PB) (01049)
NOV										
21...	<10	<1	100	<.5	<1	<1	<3	2	13	1
JAN										
10...	40	<1	82	<.5	<1	<1	<3	2	58	<1
MAY										
16...	30	<1	78	<1.0	<1	<1	<3	2	24	5
JUL										
26...	40	<1	64	1.0	<1	<1	<3	6	19	<1

DATE	LITHIUM DISSOLVED (UG/L AS LI) (01130)	MANGANESE, DISSOLVED (UG/L AS MN) (01056)	MERCURY DISSOLVED (UG/L AS HG) (71890)	MOLYBDENUM, DISSOLVED (UG/L AS MO) (01060)	NICKEL, DISSOLVED (UG/L AS NI) (01065)	SELENIUM, DISSOLVED (UG/L AS SE) (01145)	SILVER, DISSOLVED (UG/L AS AG) (01075)	STRONTIUM, DISSOLVED (UG/L AS SR) (01080)	VANADIUM, DISSOLVED (UG/L AS V) (01085)	ZINC, DISSOLVED (UG/L AS ZN) (01090)
NOV										
21...	14	41	<.1	<10	6	2	<1	200	<6	13
JAN										
10...	11	33	<.1	<10	4	1	<1	170	<6	21
MAY										
16...	11	9	<.1	<10	1	<1	<1	140	<6	9
JUL										
26...	10	5	<.1	<10	8	<1	<1	120	<6	19

06906000 MUSSEL FORK NEAR MUSSELFORK, MO

LOCATION.--Lat 39°31'26", long 92°56'59", in SW¼SW¼SE¼ sec.32, T.55 N., R.18 W., Chariton County, Hydrologic Unit 10280202, on left bank at downstream side of pier of bridge on State Highway 5, 4.5 mi southwest of Musselfork, and 1.5 mi upstream from Long Branch.

DRAINAGE AREA.--267 mi^2.

PERIOD OF RECORD.--October 1948 to December 1951, October 1962 to current year.

GAGE.--Water-stage recorder. Datum of gage is 639.25 ft National Geodetic Vertical Datum of 1929. Prior to Jan. 1, 1952, nonrecording gage at same site and datum.

REMARKS.--Records poor. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--25 years (1948-51, 1962-84), 237 ft^3/s, 12.05 in/yr, 171,700 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 23,100 ft^3/s Apr. 22, 1973, gage height, 22.11 ft; no flow Sept. 29 to Oct. 16, Oct. 30 to Nov. 2, 1965, Aug. 16-26, 27-29, Nov. 16-24, 1975.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 2,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 4	0330	2,140	18.78	Apr. 22	1945	2,430	18.23
Nov. 29	1115	2,420	19.05	May 1	0145	2,030	16.48
Dec. 13	1615	2,140	17.95	May 14	2345	2,320	17.42
Mar. 19	unknown	unknown	unknown	May 22	0100	2,930	18.30
Mar. 26	0300	2,250	17.72	June 11	2345	*9,350	20.28
Apr. 4	1200	2,410	18.17	June 17	0830	2,330	17.70
Apr. 10	0500	2,410	18.19				

Minimum daily discharge, 0.85 ft^3/s Oct. 7, 8.

DISCHARGE (CUBIC FEET/SECOND) WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.1	7.3	254	18	24	88	213	1410	132	33	5.0	2.8
2	1.0	18	148	20	25	79	207	147	97	28	4.9	3.0
3	1.2	399	163	25	25	70	1030	1080	76	25	4.8	3.8
4	.95	1340	390	28	24	90	2330	1680	64	30	4.6	4.5
5	.93	117	350	30	20	100	1980	636	55	42	4.5	4.7
6	.90	46	322	30	15	90	673	308	51	35	4.6	4.0
7	.85	34	232	30	20	80	356	235	49	28	4.8	3.1
8	.85	25	148	28	25	70	1220	184	153	21	4.5	3.6
9	1.4	46	121	26	30	65	2290	147	2060	17	4.2	4.4
10	1.9	447	106	25	25	65	2110	120	3940	16	5.0	5.1
11	2.5	780	1230	25	30	60	667	101	8450	18	4.8	5.6
12	3.1	352	1980	25	106	55	807	84	6540	16	4.5	5.1
13	2.6	112	2110	25	200	60	1070	1280	1130	15	3.7	4.6
14	2.9	68	1190	25	150	60	569	2150	317	13	3.5	3.7
15	3.3	55	550	25	120	450	354	1280	1520	13	3.1	3.3
16	3.4	52	266	24	200	860	325	255	2110	11	2.8	2.9
17	2.8	43	150	23	300	700	291	160	1990	10	2.4	2.5
18	2.9	34	100	22	600	1000	216	119	401	9.1	2.4	2.4
19	4.1	31	70	20	550	2000	170	98	167	8.4	2.3	2.2
20	4.8	32	50	20	460	1700	141	945	110	7.9	2.1	2.3
21	6.9	30	40	20	252	1500	493	2360	88	7.7	2.1	2.6
22	8.3	56	30	21	167	1250	1780	1820	95	7.5	1.9	2.8
23	8.8	1590	20	22	135	1430	2270	612	442	7.3	1.8	3.3
24	7.6	1850	15	23	115	1560	1050	488	142	6.9	1.8	3.5
25	6.7	1490	15	24	97	2130	399	233	65	6.6	1.8	3.2
26	5.7	314	15	25	92	2110	284	240	49	6.5	1.8	2.6
27	5.0	1460	16	24	152	2070	210	530	236	6.2	1.7	2.2
28	4.3	2220	16	24	152	1520	160	1600	124	5.7	1.8	2.0
29	4.3	2380	15	24	111	595	361	1030	56	5.6	2.1	1.6
30	4.6	1340	15	23	---	368	1720	389	43	5.6	2.7	1.5
31	5.1	---	16	22	---	269	---	201	---	5.3	3.5	---
TOTAL	110.78	16768.3	10143	746	4216	22544	25746	22222	30762	467.3	101.5	98.9
MEAN	3.57	559	327	24.1	145	727	858	717	1025	15.1	3.27	3.30
MAX	8.8	2380	2110	30	600	2130	2330	2360	8450	42	5.0	5.6
MIN	.85	7.3	15	18	15	55	141	84	43	5.3	1.7	1.5

CAL YR 1983	TOTAL	121770.18	MEAN	334	MAX	14900	MIN	.85
WTR YR 1984	TOTAL	133925.78	MEAN	366	MAX	8450	MIN	.85

06906190 LONG BRANCH RESERVOIR NEAR MACON, MO

LOCATION.--Lat 39°45'05", long 92°30'20", NW¼ sec. 10, T.57 N., R 14 W., Macon County, in Administration building at left end of dam on East Fork Little Chariton River, 2 mi west of junction U.S. Highway 63 and 36 in Macon and 2 mi below confluence with Long Branch.

DRAINAGE AREA.--109 mi².

PERIOD OF RECORD.--September 1978 to current year. Contents published 1982 to current year. Records collected at same site since 1978 and are available from Corps of Engineers.

GAGE.--Water-stage recorder. Datum of gage is at National Geodetic Vertical Datum of 1929 (levels by Corps Engineers).

REMARKS.--Lake is formed by a rolled earthfill type dam. Closure began on September 3, 1976. Storage began on Aug. 2, 1978. An uncontrolled limited service type spillway, 50 ft wide, is located at the right abutment. Capacity of surcharge pool (elevations 801.0 ft to 820.7 ft), 98,590 acre-ft; of flood control pool (elevations 791.0 ft to 801.0 ft), 30,600 acre-ft; and of multipurpose pool (elevations 751.1 ft to 791.0), 34,640 acre-ft. Lake is used for flood control, water supply, water quality control, and recreation.

COOPERATION.--Records furnished by Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 59,840 acre-ft July 28, 1981, elevation, 799.56 ft; minimum, 14,310 acre-ft Dec. 5, 1980, elevation 780.21 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 49,200 acre-ft June 17, elevation, 796.33 ft; minimum, 32,200 acre-ft Oct. 18, elevation, 789.99 ft.

RESERVOIR STORAGE (AC-FT), WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984
INSTANTANEOUS OBSERVATIONS AT 0800

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	32700	32600	40500	37700	36400	36500	44200	42900	42100	42900	35700	33800
2	32700	32900	40200	37500	36400	36500	43700	42500	41600	42400	35600	33800
3	32600	32900	40000	37400	36400	36500	43900	43400	41200	41800	35500	33800
4	32600	33200	39900	37400	36400	36500	44900	44700	40700	41400	35500	33700
5	32600	33100	39700	37300	36500	36500	45700	44600	40300	41000	35400	33700
6	32500	33100	39600	37300	36400	36500	45500	44100	39900	40500	35400	33500
7	32500	33100	39500	37200	36400	36500	44900	43700	39600	40100	35300	33400
8	32500	33100	39300	37300	36300	36500	44900	43200	39500	39700	35300	33500
9	32400	33100	39100	37300	36300	35600	46400	42700	42400	39300	35300	33500
10	32300	33400	38900	37400	36300	35600	46800	42100	45900	39000	35200	33500
11	32300	33600	39100	37300	36300	35300	46300	41700	49000	38800	35200	33800
12	32500	33700	40600	37200	36300	35300	45900	41200	48600	38400	35100	34000
13	32400	33700	41500	37100	36300	35100	45800	41000	47700	38200	35100	34000
14	32400	33700	41300	37000	36400	35100	45400	42000	47100	37900	35000	34000
15	32300	33700	41000	36900	36500	35300	45000	41700	47100	37700	34900	34000
16	32300	33700	40700	36900	36500	37000	44700	41200	48700	37400	34900	34000
17	32300	33600	40400	36800	36600	39900	44200	40800	49200	37200	34800	33900
18	32200	33600	40200	36700	36800	40100	43600	40400	48700	36900	34800	33900
19	32300	33700	39900	36600	37200	40400	43100	40000	48100	36700	34700	33800
20	32400	33800	39600	36600	37400	41000	42600	42600	47500	36600	34600	33800
21	32600	33700	39400	36500	37400	41400	42400	45000	47000	36500	34500	33800
22	32800	33700	39300	36400	37400	41300	43300	45100	46800	36400	34500	33700
23	32800	34500	39100	36400	37200	41900	45000	45200	46300	36400	34400	33700
24	32800	35600	39000	36300	37200	42700	44800	44700	45700	36300	34300	33700
25	32800	36200	38600	36300	37000	43900	44300	44300	45100	36200	34300	33700
26	32700	36200	38400	36300	36900	44400	43700	43800	44600	36100	34200	33600
27	32700	36700	38300	36300	36900	45100	43300	43200	44300	36000	34100	33600
28	32600	39200	38200	36300	36800	45800	42900	43700	44600	35900	34100	33500
29	32700	41000	38100	36300	36500	45500	42500	43600	44100	35900	34000	33400
30	32600	40700	37900	36400	---	45100	42600	45100	43500	35800	34000	33400
31	32600	---	37800	36400	---	44600	---	42600	---	35700	34000	---
WTR YR 1984												
(†)	790.16	793.39	792.25	791.71	791.77	794.77	794.05	794.06	794.38	791.45	790.73	790.48
(‡)	-100	+8100	-2900	-1400	+100	+8100	-2000	0	+900	-7800	-1700	-600
MAX	32800	41000	41500	37700	37400	45800	46800	45200	49200	42900	35700	34000
MIN	32200	32600	37800	36300	36300	35100	42400	40000	39500	35700	34000	33400

CAL YR 1983.................(‡) -4700
WTR YR 1984.................(‡) +700

(†) Elevation, in feet NGVD, at end of month.
(‡) Change in contents, in acre-feet.

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06906200 EAST FORK LITTLE CHARITON RIVER NEAR MACON, MO

LOCATION.--Lat 39°44'47", long 92°31'05", NW¼NW¼NW¼ sec.18, T.57 N., R. 14 W., Macon County, Hydrologic Unit 10280203, on downstream end of right abutment of bridge on U.S. Highway 36, 1000 ft downstream from Long Branch Lake and 3 mi west of Macon.

DRAINAGE AREA.--112 mi².

PERIOD OF RECORD.--September 1971 to current year. Partial-record station May 1970 to August 1971.

GAGE.--Water-stage recorder. Datum of gage is 741.43 ft National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair. Several observations of water temperatures were made during the year. Some regulation from Long Branch Lake.

AVERAGE DISCHARGE.--13 years, 110 ft³/s, 79,700 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,700 ft³/s Apr. 21, 1973, gage height, 20.60 ft; no flow in most years prior to completion of Long Branch Reservoir.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 713 ft³/s May 20, gage height, 12.08 ft; minimum, 1.8 ft³/s Sept. 4.

DISCHARGE (CUBIC FEET/SECOND) WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.8	5.9	201	57	35	95	307	332	327	347	13	7.2
2	4.7	8.4	191	53	35	91	303	328	319	336	12	7.2
3	4.4	11	184	49	35	87	314	346	308	327	11	7.2
4	4.3	5.7	180	46	35	87	329	359	297	319	9.8	5.8
5	4.1	4.4	175	42	35	84	344	358	288	307	8.9	6.8
6	3.8	4.3	169	42	35	82	367	352	278	296	8.0	6.9
7	3.7	4.3	158	42	34	79	361	344	269	284	7.6	7.1
8	3.4	4.3	145	44	32	78	371	337	279	273	7.3	7.4
9	3.1	5.0	129	48	32	75	380	329	352	264	6.4	7.6
10	3.0	9.1	115	49	32	74	379	320	394	255	5.9	7.6
11	3.0	5.8	167	47	32	72	374	312	416	250	5.1	7.6
12	2.5	5.0	212	45	34	71	372	303	407	236	4.5	7.6
13	2.5	5.0	225	43	34	69	368	309	387	222	7.7	7.6
14	3.4	5.0	222	41	36	70	365	322	358	205	11	7.6
15	3.7	5.2	215	40	37	83	356	316	381	191	11	6.7
16	3.5	5.2	207	38	39	174	355	307	385	170	9.8	6.7
17	3.5	5.3	197	37	42	272	348	296	389	154	9.2	6.7
18	3.4	5.4	190	36	52	276	340	287	379	135	9.0	6.7
19	3.6	9.4	189	35	63	288	333	290	370	66	8.5	6.7
20	3.4	8.2	181	34	68	301	323	411	362	29	8.3	6.9
21	4.2	7.6	174	34	67	305	326	371	357	28	7.9	6.9
22	4.4	11	162	34	122	306	351	374	355	26	7.4	6.9
23	3.5	16	144	33	152	320	355	374	350	25	7.8	6.9
24	3.6	17	124	32	141	334	351	365	342	23	7.9	6.9
25	4.0	19	105	32	128	351	345	359	335	22	7.7	6.9
26	4.4	18	93	32	125	336	338	354	329	21	7.7	6.9
27	4.7	62	84	33	123	326	332	354	357	19	7.8	7.2
28	5.1	163	80	33	114	328	328	355	374	18	7.5	7.2
29	5.4	214	74	34	102	324	321	352	366	17	7.4	7.2
30	5.4	210	67	35	---	318	329	344	357	16	7.2	7.2
31	5.4	---	61	35	---	312	---	336	---	14	7.2	---
TOTAL	121.9	859.5	4820	1235	1851	6068	10365	10496	10467	4895	257.5	211.8
MEAN	3.93	28.6	155	39.8	63.8	196	346	339	349	158	8.31	7.06
MAX	5.4	214	225	57	152	351	380	411	416	347	13	7.6
MIN	2.5	4.3	61	32	32	69	303	287	269	14	4.5	5.8

CAL YR 1983 TOTAL 41327.0 MEAN 113 MAX 859 MIN 1.1
WTR YR 1984 TOTAL 51647.7 MEAN 141 MAX 416 MIN 2.5

06906300 EAST FORK LITTLE CHARITON RIVER NEAR HUNTSVILLE, MO

LOCATION.--Lat 39°27'18", long 92°34'07", in NW¼NW¼NW¼ sec.26, T.54 N., R. 15 W., Randolph County, Hydrologic Unit 10280203, on right bank downstream end of bridge on State Highway C, 1 mi downstream from Sugar Creek, and 1.5 mi northwest of Huntsville.

DRAINAGE AREA.--220 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1962 to current year. Occasional low-flow measurements, water years 1942-43, 1945-46.

GAGE.--Water stage recorder. Datum of gage is 655.86 ft National Geodetic Vertical Datum of 1929 (levels by Missouri State Highway Commission). From July 18, 1972, to Sept. 23, 1974, at datum 0.63 ft higher and from Sept. 24, 1974, at present datum.

REMARKS.--Records fair. Flow partly regulated by Long Branch Lake. Low flow affected by operation of pump 7 mi upstream.

AVERAGE DISCHARGE.--22 years, 243 ft³/s, 15.00 in/yr, 176,100 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 30,000 ft³/s Apr. 21, 1973, gage height, 20.78 ft, at datum then in use, from rating curve extended above 4,000 ft³/s on basis of slope-area measurement of peak flow; no flow at times in many years.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,500 ft³/s and maximum (*):

Date	Time	Discharge (ft³/s)	Gage height (ft)
Nov. 27	2230	1,730	14.22
Dec. 11	1645	1,560	13.61
Mar. 19	1045	1,940	14.46
Apr. 4	1345	*2,060	14.80
May 20	1200	1,920	14.61

Minimum discharge, 0.35 ft³/s, Aug. 14.

DISCHARGE (CUBIC FEET/SECOND) WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.8	25	259	70	46	150	382	397	337	321	6.7	15
2	1.5	177	236	65	46	140	385	377	315	303	5.7	16
3	3.0	314	269	60	46	133	930	695	300	289	4.8	27
4	4.0	632	435	55	45	147	1890	502	279	323	4.7	27
5	4.0	101	363	50	42	168	981	438	256	289	3.8	31
6	3.6	46	299	50	40	141	560	409	239	253	4.2	15
7	4.2	30	236	50	50	133	499	393	223	229	2.9	17
8	3.4	23	207	55	55	134	1000	370	212	208	2.4	27
9	4.3	19	191	60	62	130	1050	353	874	194	2.2	39
10	4.0	105	180	60	66	132	650	335	499	180	2.1	42
11	3.2	142	1140	58	71	134	539	324	447	279	1.6	52
12	7.9	56	951	57	113	128	868	303	434	181	1.6	22
13	9.7	51	461	56	104	138	605	940	409	160	.83	7.4
14	6.0	46	372	55	78	161	504	808	359	146	1.4	14
15	4.3	34	312	54	69	514	503	403	707	138	5.4	9.1
16	5.1	24	301	52	79	803	476	350	908	132	8.0	7.7
17	4.7	20	200	51	147	508	442	314	452	122	8.8	6.7
18	3.9	18	180	49	272	563	405	284	391	104	8.6	6.0
19	11	169	170	48	276	1610	381	390	360	95	7.3	5.7
20	23	198	160	45	155	991	366	1740	353	51	7.5	6.2
21	241	71	150	44	129	749	972	1030	345	31	7.8	7.1
22	157	95	140	44	120	727	1220	508	617	29	6.2	7.6
23	80	1130	130	43	147	654	987	502	704	23	5.6	11
24	23	375	120	42	152	660	559	426	387	21	5.7	9.7
25	13	185	110	41	142	1010	468	397	328	18	5.8	8.9
26	8.5	113	100	40	154	850	428	413	308	17	6.5	8.1
27	6.3	895	90	41	236	1220	397	674	557	16	8.7	6.9
28	7	1350	85	45	194	686	370	774	400	13	15	8.9
29	6	461	80	45	167	502	413	462	363	11	19	9.5
30	1	323	75	45	---	440	489	392	338	9.5	21	6.7
31	1	---	75	45	---	406	---	360	---	6.1	18	---
TOTAL	678.3	7228	8077	1575	3303	14862	19719	16068	12701	4191.6	209.83	477.2
MEAN	21.9	241	261	50.8	114	479	657	518	423	135	6.77	15.9
MAX	241	1350	1140	70	276	1610	1890	1740	908	323	21	52
MIN	1.5	18	75	40	40	128	366	284	212	6.1	.83	5.7

CAL YR 1983	TOTAL	78682.47	MEAN	216	MAX	3740	MIN .53
WTR YR 1984	TOTAL	89089.93	MEAN	243	MAX	1890	MIN .83

06906300 EAST FORK LITTLE CHARITON RIVER NEAR HUNTSVILLE, MO.--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--September 1963 to September 1968, October 1973 to July 1975, October 1982 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	TIME	AGENCY ANALYZING SAMPLE (CODE NUMBER) (00028)	STREAM-FLOW, INSTANTANEOUS (CFS) (00061)	SPECIFIC CONDUCTANCE (UMHOS) (00095)	PH (STANDARD UNITS) (00400)	TEMPERATURE (DEG C) (00010)	OXYGEN, DISSOLVED (MG/L) (00300)	OXYGEN, DISSOLVED (PERCENT SATURATION) (00301)	OXYGEN DEMAND, CHEMICAL (LOW LEVEL) (MG/L) (00335)	OXYGEN DEMAND, CHEMICAL (HIGH LEVEL) (MG/L) (00340)	COLIFORM, FECAL, 0.7 UM-MF (COLS./100 ML) (31625)
OCT											
13...	0800	29001	10	1450	7.7	12.0	8.8	81	20	--	300
NOV											
21...	1630	29091	59	930	7.5	10.5	10.2	91	22	--	720
DEC											
13...	1430	29001	442	502	7.2	3.5	13.0	93	26	--	700
JAN											
10...	1500	29001	100	780	7.3	.5	13.0	88	17	--	K130
FEB											
14...	1330	29001	74	950	7.3	5.5	12.8	101	14	--	540
MAR											
13...	1450	29001	144	800	7.5	3.0	14.2	104	10	--	K16
APR											
10...	1400	29001	623	491	7.4	9.0	9.0	77	26	--	110
MAY											
17...	0800	29001	320	485	7.4	16.0	9.3	92	16	--	200
JUN											
12...	1245	29001	433	350	7.6	24.5	8.0	95	20	--	2000
JUL											
26...	1230	80020	16	850	8.0	28.0	7.2	91	--	21	120
AUG											
23...	1115	80020	6.0	1340	7.9	23.5	6.4	74	--	<10	220
SEP											
20...	1230	80020	6.3	1420	7.6	20.0	8.5	92	--	70	220

DATE	HARDNESS (MG/L AS CACO3) (00900)	HARDNESS, NONCARBONATE (MG/L CACO3) (00902)	CALCIUM DISSOLVED (MG/L AS CA) (00915)	MAGNESIUM, DISSOLVED (MG/L AS MG) (00925)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	POTASSIUM, DISSOLVED (MG/L AS K) (00935)	ALKALINITY FIELD (MG/L AS CACO3) (00410)	CARBON DIOXIDE DISSOLVED (MG/L AS CO2) (00405)	SULFATE DISSOLVED (MG/L AS SO4) (00945)	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)
OCT										
13...	520	390	110	59	130	7.2	127	4.9	570	9.0
NOV										
21...	--	--	--	--	--	--	81	5.0	--	--
DEC										
13...	--	--	--	--	--	--	69	8.4	--	--
JAN										
10...	--	--	--	27	25	4.0	81	7.9	360	6.0
FEB										
14...	--	--	--	--	--	--	91	8.8	--	--
MAR										
13...	--	--	--	--	--	--	59	3.6	--	--
APR										
10...	210	150	54	19	13	3.2	62	4.8	170	4.0
MAY										
17...	--	--	--	--	--	--	63	4.9	--	--
JUN										
12...	--	--	--	--	--	--	59	2.9	--	--
JUL										
26...	330	240	73	35	55	4.6	82	1.6	320	5.6
AUG										
23...	--	--	--	--	--	--	118	2.9	--	--
SEP										
20...	--	--	--	--	--	--	115	5.6	--	--

K--Results based on colony count outside the acceptable range (non-ideal colony count).

06906300 EAST FORK LITTLE CHARITON RIVER NEAR HUNTSVILLE, MO--Continued

DATE	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L) (00530)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	PHOS-PHORUS, TOTAL (MG/L AS P) (00665)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD) (01027)	CADMIUM DIS-SOLVED (UG/L AS CD) (01025)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)
OCT										
13...	.40	1200	31	<.05	.030	<.050	<2	<2	<5	<5
NOV										
21...	--	--	27	.42	.130	<.050	--	--	--	--
DEC										
13...	--	--	78	.48	.100	.120	--	--	--	--
JAN										
10...	.30	603	37	.50	.170	<.050	<2	<2	<5	<5
FEB										
14...	--	--	24	.40	.150	.050	--	--	--	--
MAR										
13...	--	--	33	.29	.050	<.050	--	--	--	--
APR										
10...	.20	335	117	.43	.080	.100	<2	<2	7	<5
MAY										
17...	--	--	110	.95	.070	.150	--	--	--	--
JUN										
12...	--	--	152	.90	.060	.160	--	--	--	--
JUL										
26...	.30	584	40	.50	.020	.070	<1	<1	4	2
AUG										
23...	--	--	45	<.10	.040	.040	--	--	--	--
SEP										
20...	--	--	19	<.10	.040	.020	--	--	--	--

DATE	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB) (01051)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG) (71900)	MERCURY DIS-SOLVED (UG/L AS HG) (71890)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN) (01092)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)
OCT										
13...	2000	<20	<5	<5	490	420	<.2	<.2	10	<10
NOV										
21...	--	--	--	--	--	--	--	--	--	--
DEC										
13...	--	--	--	--	--	--	--	--	--	--
JAN										
10...	3200	1200	<5	<5	1200	1200	<.2	<.2	40	28
FEB										
14...	--	--	--	--	--	--	--	--	--	--
MAR										
13...	--	--	--	--	--	--	--	--	--	--
APR										
10...	5400	100	<5	<5	570	490	.2	<.2	50	<10
MAY										
17...	--	--	--	--	--	--	--	--	--	--
JUN										
12...	--	--	--	--	--	--	--	--	--	--
JUL										
26...	1800	10	3	<1	410	320	<.1	<.1	40	16
AUG										
23...	--	--	--	--	--	--	--	--	--	--
SEP										
20...	--	--	--	--	--	--	--	--	--	--

06906470 MIDDLE FORK LITTLE CHARITON RIVER BELOW SALISBURY, MO

WATER-QUALITY RECORDS

LOCATION.--Lat 39°24'58", long 92°46'19", in NE¼NW¼ sec.12, T.53 N., R.17 W., Chariton County, Hydrologic Unit 10280203, at bridge on County Highway PP, 1.0 mi downstream from Muncas Creek, 1.2 mi east of Salisbury.

DRAINAGE AREA.--201 mi².

PERIOD OF RECORD.--November 1983 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS) (00061)	SPE-CIFIC CON-DUCT-ANCE (UMHOS) (00095)	PH (STAND-ARD UNITS) (00400)	TEMPER-ATURE (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L) (00340)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./100 ML) (31625)	HARD-NESS (MG/L AS CACO3) (00900)
NOV										
21...	1430	100	710	7.7	10.5	10.0	89	29	1600	360
DEC										
13...	1300	386	395	7.5	5.5	12.0	95	29	850	--
JAN										
10...	1245	40	850	7.8	1.0	13.8	94	21	140	430
FEB										
14...	1215	50	1020	7.6	6.0	12.4	99	22	120	--
MAR										
13...	1245	80	508	7.9	3.0	13.6	99	22	14	--
APR										
10...	1230	753	367	7.7	10.5	10.6	94	33	140	150
MAY										
17...	1005	285	366	7.6	16.5	9.4	94	23	110	--
JUN										
12...	1330	300	330	7.7	24.5	6.2	73	29	1800	--
JUL										
26...	1015	27	814	7.6	27.0	6.0	74	16	450	400
AUG										
23...	0915	26	1390	7.8	22.5	6.9	78	<10	230	--
SEP										
20...	1030	15	608	7.5	18.5	7.4	78	50	320	--

DATE	HARD-NESS, NONCAR-BONATE (MG/L CACO3) (00902)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ALKA-LINITY FIELD (MG/L AS CACO3) (00410)	CARBON DIOXIDE DIS-SOLVED (MG/L AS CO2) (00405)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)
NOV										
21...	290	70	44	19	5.4	66	2.5	290	8.8	1.0
DEC										
13...	--	--	--	--	--	55	4.0	--	--	--
JAN										
10...	360	54	71	13	4.4	66	2.0	350	12	1.5
FEB										
14...	--	--	--	--	--	65	3.2	--	--	--
MAR										
13...	--	--	--	--	--	68	1.7	--	--	--
APR										
10...	94	40	12	11	3.3	56	2.2	110	5.3	.30
MAY										
17...	--	--	--	--	--	56	2.7	--	--	--
JUN										
12...	--	--	--	--	--	50	1.9	--	--	--
JUL										
26...	350	67	56	12	7.9	53	2.6	330	8.3	1.3
AUG										
23...	--	--	--	--	--	61	1.9	--	--	--
SEP										
20...	--	--	--	--	--	68	4.2	--	--	--

06906470 MIDDLE FORK LITTLE CHARITON RIVER BELOW SALISBURY, MO--Continued

DATE	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L) (00530)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	PHOS-PHORUS, TOTAL (MG/L AS P) (00665)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD) (01027)	CADMIUM DIS-SOLVED (UG/L AS CD) (01025)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)
NOV										
21...	538	69	2.3	.840	.110	1	<1	19	4	2500
DEC										
13...	--	86	.40	.030	.070	--	--	--	--	--
JAN										
10...	596	30	.60	.080	.040	2	<1	12	29	870
FEB										
14...	--	30	.50	.340	.030	--	--	--	--	--
MAR										
13...	--	20	.30	.050	.010	--	--	--	--	--
APR										
10...	227	79	.70	.070	.080	<1	<1	10	4	2700
MAY										
17...	--	69	.40	.020	.040	--	--	--	--	--
JUN										
12...	--	104	.70	.030	.050	--	--	--	--	--
JUL										
26...	588	35	.40	.030	.060	<1	1	6	3	1700
AUG										
23...	--	39	.30	.050	.040	--	--	--	--	--
SEP										
20...	--	40	.20	.030	.040	--	--	--	--	--

DATE	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB) (01051)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG) (71900)	MERCURY DIS-SOLVED (UG/L AS HG) (71890)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN) (01092)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)
NOV									
21...	55	5	1	320	260	.1	<.1	50	21
DEC									
13...	--	--	--	--	--	--	--	--	--
JAN									
10...	23	3	<1	310	280	.2	.1	50	53
FEB									
14...	--	--	--	--	--	--	--	--	--
MAR									
13...	--	--	--	--	--	--	--	--	--
APR									
10...	42	9	<1	180	48	<.1	<.1	210	16
MAY									
17...	--	--	--	--	--	--	--	--	--
JUN									
12...	--	--	--	--	--	--	--	--	--
JUL									
26...	7	<1	1	270	220	<.1	<.1	50	11
AUG									
23...	--	--	--	--	--	--	--	--	--
SEP									
20...	--	--	--	--	--	--	--	--	--

06908000 BLACKWATER RIVER AT BLUE LICK, MO

LOCATION.--Lat 38°59'25", long 93°12'14", in NW¼NE¼ sec.34, T.49 N., R.21 W., Saline County. Hydrologic Unit 10300104, on right bank upstream from county bridge, 0.8 mi downstream from Finney Creek, 1 mi south of Blue Lick, and at mile 30.8.

DRAINAGE AREA.--1,120 mi².

PERIOD OF RECORD.--June 1922 to September 1933, May 1938 to current year.

REVISED RECORDS.--WSP 1006: 1929. WDR MO-83-1: 1982.

GAGE.--Water-stage recorder. Datum of gage is 593.79 ft National Geodetic Vertical Datum of 1929. Prior to July 25, 1925, nonrecording gage at site 75 ft downstream at datum 0.10 ft lower. July 25 to Sept. 30, 1933, and May 23, 1938, to Dec. 3, 1956, nonrecording gage at site 25 ft downstream at same datum.

REMARKS.--Records poor. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--57 years, 719 ft³/s, 8.71 in/yr, 520,900 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 54,000 ft³/s Nov. 18, 1928, gage height 41.25 ft from floodmarks, rom rating curve extended above 32,000 ft³/s by logarithmic plotting; minimum, 0.08 ft³/s Aug. 9, 10, 1976.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 10,000 ft³/s and maximum (*):

Date	Time	Discharge (ft³/s)	Gage height (ft)
Mar. 22	1115	*12,200	31.81
July 7	1845	11,700	31.35

Minimum discharge, 0.15 ft³/s Oct. 6.

DISCHARGE (CUBIC FEET/SECOND) WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.91	8.2	400	108	145	1130	550	3480	117	104	9.5	7.1
2	.67	1370	300	120	140	1190	647	1300	98	91	9.0	6.8
3	.39	4320	1100	134	135	1090	3990	730	85	97	8.5	6.9
4	.26	6170	2100	136	135	1270	5710	687	75	3800	8.5	6.6
5	.33	5670	1000	140	130	2780	5480	505	68	7330	9.0	6.5
6	.25	5210	560	150	128	1600	5240	406	62	9870	9.5	7.2
7	.63	2830	340	160	127	688	2440	382	66	11500	10	8.7
8	.59	614	260	180	114	516	3920	357	68	10900	9.5	11
9	.40	411	210	180	114	435	5570	295	2640	9070	9.0	13
10	.50	1530	260	180	134	346	6120	260	5010	4360	9.0	23
11	3.0	1510	320	175	169	346	6890	234	6480	4000	9.2	48
12	10	733	560	175	200	362	7040	212	8680	2100	9.8	51
13	20	365	580	170	260	380	5920	193	9460	580	14	40
14	15	246	320	165	291	600	3650	177	8150	400	12	25
15	10	186	150	160	238	1230	1370	161	3270	250	9.6	22
16	10	141	130	160	206	1500	832	145	3600	160	10	20
17	9.0	116	100	158	246	2980	657	136	1080	100	9.6	16
18	8.8	114	90	142	305	4100	532	127	366	200	8.2	15
19	43	688	80	119	438	7680	436	119	354	120	6.5	13
20	42	1630	75	109	380	8720	378	150	243	57	5.3	12
21	944	785	70	65	271	11000	2430	185	1880	28	5.3	12
22	689	340	65	78	213	12100	4870	220	3200	20	5.8	14
23	314	800	65	75	188	11200	4700	157	3400	19	5.9	12
24	103	2000	65	76	170	9300	3440	127	2460	19	19	12
25	44	1000	70	90	155	6420	1300	109	640	18	53	12
26	22	500	80	100	173	2650	709	98	299	18	36	12
27	12	2000	90	110	929	4030	658	101	229	17	23	12
28	8.2	3500	109	120	2140	3730	1400	206	176	16	16	12
29	7.3	3000	128	130	1620	1840	2310	430	150	14	12	11
30	8.0	1800	140	150	---	948	4180	216	123	12	9.7	9.8
31	9.0	---	120	150	---	675	---	146	---	11	8.2	---
TOTAL	2336.23	49587.2	9937	4176	9894	102846	93369	12051	62529	65281	379.6	477.6
MEAN	75.4	1653	321	135	341	3318	3112	389	2084	2106	12.2	15.9
MAX	944	6170	2100	180	2140	12100	7040	3480	9460	11500	53	51
MIN	.25	8.2	65	75	114	346	378	98	62	11	5.3	6.5

CAL YR 1983	TOTAL	387927.43	MEAN	1063	MAX	21200	MIN	.25
WTR YR 1984	TOTAL	412863.63	MEAN	1128	MAX	12100	MIN	.25

06908800 LAMINE RIVER NEAR BLACKWATER, MO.
(National stream-quality accounting network station)

WATER-QUALITY RECORDS

LOCATION.--lat 38°56'47", long 92°56'53", in NW¼NE¼ sec.12, T.48 N., R.19 W., Cooper County, Hydrologic Unit 10300103 at bridge on county road 0.5 mi downstream from Blackwater River.

DRAINAGE AREA.--2610 mi².

PERIOD OF RECORD.--March 1979 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: March 1979 to September 1981.
WATER TEMPERATURE: March 1979 to September 1981.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum daily, 1,450 micromhos October 27-29, November 5, 6, 1979; minimum daily, 93 micromhos June 13, 1981.
WATER TEMPERATURE: Maximum daily, 36.0°C August 6, 1979; minimum daily, 0.0°C several days during winter period of water year 1980.

WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	TIME	STREAMFLOW, INSTANTANEOUS (CFS) (00061)	SPECIFIC CONDUCTANCE (UMHOS) (00095)	PH (STANDARD UNITS) (00400)	TEMPERATURE (DEG C) (00010)	TURBIDITY (NTU) (00076)	OXYGEN, DISSOLVED (MG/L) (00300)	OXYGEN, DISSOLVED (PERCENT SATURATION) (00301)	COLIFORM, FECAL, 0.7 UM-MF (COLS./100 ML) (31625)	STREPTOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)
OCT										
11...	1300	50	1430	7.9	19.0	11	6.4	69	56	250
NOV										
23...	1300	12500	145	7.1	11.5	210	6.0	55	14000	35000
DEC										
15...	1300	100	295	7.6	3.0	50	12.4	91	2800	3500
JAN										
12...	1230	100	293	7.5	.5	34	13.8	94	110	1200
FEB										
16...	1245	100	442	8.1	8.0	10	10.4	87	22	70
MAR										
15...	1345	4220	390	7.9	7.5	75	12.0	99	620	980
APR										
12...	1200	10000	223	7.6	12.0	120	7.6	70	570	420
MAY										
15...	0930	450	465	8.5	18.0	7.4	14.1	145	K32	K4
JUN										
14...	1500	1500	174	7.2	25.5	260	4.0	48	1000	1600
JUL										
24...	1130	100	355	8.1	30.5	11	5.8	75	10	4
AUG										
21...	1230	100	886	7.9	28.0	3.1	4.7	59	11	16
SEP										
18...	1200	200	300	7.0	22.5	70	3.8	43	5200	1200

DATE	HARDNESS (MG/L AS CACO3) (00900)	HARDNESS, NONCARBONATE (MG/L CACO3) (00902)	CALCIUM DISSOLVED (MG/L AS CA) (00915)	MAGNESIUM, DISSOLVED (MG/L AS MG) (00925)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	PERCENT SODIUM (00932)	SODIUM ADSORPTION RATIO (00931)	POTASSIUM, DISSOLVED (MG/L AS K) (00935)	ALKALINITY FIELD (MG/L AS CACO3) (00410)	SULFATE DISSOLVED (MG/L AS SO4) (00945)
OCT										
11...	290	110	80	23	180	56	5	7.0	180	48
NOV										
23...	58	10	17	3.8	5.1	15	.3	5.1	48	15
DEC										
15...	120	43	36	8.3	12	17	.5	3.2	81	35
JAN										
12...	130	42	36	9.4	13	18	.5	3.4	87	40
FEB										
16...	180	52	49	15	21	20	.7	3.1	132	56
MAR										
15...	150	41	43	11	15	17	.5	2.9	112	47
APR										
12...	94	23	28	5.9	6.6	13	.3	3.4	71	28
MAY										
15...	180	46	51	13	20	19	.7	2.9	135	53
JUN										
14...	70	20	21	4.2	4.4	11	.2	4.5	50	18
JUL										
24...	140	30	40	9.5	17	20	.7	5.1	109	22
AUG										
21...	230	61	64	17	87	44	3	6.3	169	53
SEP										
18...	95	21	27	6.7	16	25	.7	6.1	74	31

K--Results based on colony count outside the acceptable range (non-ideal colony count).

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06908800 LAMINE RIVER NEAR BLACKWATER, MO--Continued

DATE	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)	FLUORIDE, DISSOLVED (MG/L AS F) (00950)	SILICA, DISSOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L) (70301)	SOLIDS, DISSOLVED (TONS PER AC-FT) (70303)	SOLIDS, DISSOLVED (TONS PER DAY) (70302)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N) (00631)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N) (00608)
OCT									
11...	320	.40	8.7	799	780	1.1	108	.80	1.00
NOV									
23...	7.4	.20	8.5	102	92	.14	3440	1.0	.230
DEC									
15...	17	.20	11	189	170	.26	51	3.1	.320
JAN									
12...	18	.20	9.4	199	180	.27	54	2.8	.320
FEB									
16...	30	.20	5.9	257	260	.35	69	1.8	.290
MAR									
15...	20	.20	7.9	229	210	.31	2610	2.3	.220
APR									
12...	7.8	.20	8.6	155	130	.21	4180	1.7	.120
MAY									
15...	27	.20	7.6	271	260	.37	329	2.8	.030
JUN									
14...	5.1	.30	8.2	111	96	.15	450	2.5	.120
JUL									
24...	25	.30	9.7	206	190	.28	56	.85	.060
AUG									
21...	150	.40	6.2	500	490	.68	135	.15	.240
SEP									
18...	23	.30	7.2	188	160	.26	102	.83	.200

DATE	NITROGEN, AMMONIA DISSOLVED (MG/L AS NH4) (71846)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N) (00625)	PHOSPHORUS, TOTAL (MG/L AS P) (00665)	PHOSPHORUS TOTAL (MG/L AS PO4) (71886)	PHOSPHORUS, DISSOLVED (MG/L AS P) (00666)	PHOSPHORUS, ORTHO, DISSOLVED (MG/L AS P) (00671)	SEDIMENT, SUSPENDED (MG/L) (80154)	SEDIMENT, DISCHARGE, SUSPENDED (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. %FINER THAN .062 MM (70331)
OCT									
11...	1.3	3.9	.330	1.0	.040	.020	38	5.1	42
NOV									
23...	.30	9.0	1.80	5.5	.050	.040	3060	103000	89
DEC									
15...	.41	1.3	.210	.64	.080	.070	15	4.1	90
JAN									
12...	.41	1.1	.160	.49	.060	.080	78	21	79
FEB									
16...	.37	.90	.120	.37	.040	.050	50	14	63
MAR									
15...	.28	1.6	.230	.71	.040	.080	278	3170	96
APR									
12...	.15	1.5	.300	.92	.040	.040	295	7960	98
MAY									
15...	.04	1.4	.120	.37	.050	.040	47	57	72
JUN									
14...	.15	2.0	.350	--	.050	.040	445	1800	96
JUL									
24...	.08	1.0	.110	--	.040	.020	50	14	88
AUG									
21...	.31	2.0	.160	--	.020	<.010	77	21	77
SEP									
18...	.26	1.6	.280	--	.090	.080	122	66	85

06908800 LAMINE RIVER NEAR BLACKWATER, MO--Continued

DATE	ALUM-INUM, DIS-SOLVED (UG/L AS AL) (01106)	ARSENIC DIS-SOLVED (UG/L AS AS) (01000)	BARIUM, DIS-SOLVED (UG/L AS BA) (01005)	BERYL-LIUM, DIS-SOLVED (UG/L AS BE) (01010)	CADMIUM DIS-SOLVED (UG/L AS CD) (01025)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR) (01030)	COBALT, DIS-SOLVED (UG/L AS CO) (01035)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)
NOV 23...	330	1	76	1.1	<1	<1	<3	4	230	1
JAN 12...	20	1	81	<.5	<1	<1	<3	8	120	<1
MAY 15...	<10	<1	120	<1.0	3	<1	<3	1	6	<1
JUL 24...	20	<1	130	<1.0	<1	2	<3	3	8	2

DATE	LITHIUM DIS-SOLVED (UG/L AS LI) (01130)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	MERCURY DIS-SOLVED (UG/L AS HG) (71890)	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO) (01060)	NICKEL, DIS-SOLVED (UG/L AS NI) (01065)	SELE-NIUM, DIS-SOLVED (UG/L AS SE) (01145)	SILVER, DIS-SOLVED (UG/L AS AG) (01075)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)	VANA-DIUM, DIS-SOLVED (UG/L AS V) (01085)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)
NOV 23...	5	370	<.1	<10	6	1	<1	83	<6	69
JAN 12...	10	120	<.1	<10	6	1	<1	140	<6	14
MAY 15...	16	49	<.1	<10	<1	<1	<1	240	<6	16
JUL 24...	11	4	.1	<10	9	<1	<1	170	<6	45

06909000 MISSOURI RIVER AT BOONVILLE, MO

LOCATION.--Lat 38°58'42", long 92°45'13", sec.35, T.49 N., R.17 W., Cooper County, Hydrologic Unit 10300102, on downstream side of second pier from right abutment of Missouri-Kansas-Texas Railroad Co. bridge at Boonville. River mile 196.6.

DRAINAGE AREA.--501,700 mi², approximately.

PERIOD OF RECORD.--October 1925 to current year. Gage-height records collected at same site 1893-99 are contained in reports of Missouri River Commission; since 1900 in reports of National Weather Service.

REVISED RECORDS.--WDR MO-76-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 565.42 ft National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1928, nonrecording gage at site 0.4 mi downstream at datum 3.14 ft lower. Oct. 1, 1928 to May 9, 1931, nonrecording gage at site 50 ft upstream from present site at present datum. May 10, 1931, to Apr. 12, 1934, water-stage recorder at site 0.4 mi downstream at different datum.

REMARKS.--Records good. Discharge measurements made weekly except during ice-flow periods. Some regulation from many upstream reservoirs. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--59 years, 59,980 ft³/s, 43,456,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 550,000 ft³/s July 17, 1951; maximum gage height, 32.62 ft July 17, 1951; minimum discharge, about 1,800 ft³/s Jan. 10, 1940.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 21, 1844, reached a stage of 32.7 ft, discharge, about 710,000 ft³/s, computed by Corps of Engineers. Flood of June 6, 1903, reached a stage of 30.5 ft discharge, about 612,000 ft³/s, computed by Corps of Engineers.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 285,000 ft³/s June 13, gage height, 29.50 ft; minimum, 21,000 ft³/s Dec. 25.

DISCHARGE (CUBIC FEET/SECOND) WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	50800	52700	99500	24000	57000	72800	130000	215000	124000	182000	79200	63300
2	52800	60400	78100	24000	60000	71000	120000	238000	117000	181000	76600	62400
3	53500	67500	66600	25000	63600	69300	130000	248000	107000	180000	75700	62200
4	54300	87400	73400	26000	63400	68300	170000	239000	96800	194000	74500	62800
5	55500	96500	75200	28000	71000	72200	199000	214000	92500	200000	73100	63700
6	58700	83000	68700	30000	63600	70600	199000	187000	90000	206000	71100	63700
7	59700	69000	65600	35000	58000	67500	179000	170000	100000	206000	70400	62600
8	59700	62500	60600	40000	52400	67000	169000	163000	150000	198000	69600	62400
9	58300	60000	57100	45000	54000	66500	191000	157000	178000	184000	70000	61900
10	56800	63400	54600	50000	56900	64500	197000	153000	230000	165000	69800	62800
11	55000	70600	61400	54000	57100	62700	191000	152000	258000	147000	67900	62500
12	53800	73600	85500	55000	70200	59400	180000	151000	276000	139000	68300	62700
13	55200	74200	85800	55000	67100	56500	193000	147000	279000	136000	69200	63200
14	56700	69700	73300	54000	68700	57800	192000	159000	267000	132000	69500	64900
15	56700	63300	64000	53000	78700	65800	174000	159000	252000	129000	68600	71500
16	55000	59300	56400	52000	81500	85200	165000	147000	246000	129000	68300	72400
17	53400	56900	51200	50000	78200	99200	164000	132000	243000	128000	67700	65800
18	53300	55700	48000	48000	87200	111000	158000	121000	241000	124000	66600	63900
19	55300	55500	47100	45000	102000	142000	151000	116000	244000	122000	65500	63900
20	55500	58400	44200	44000	101000	170000	148000	119000	242000	119000	65200	63700
21	63800	58900	37100	44000	99500	166000	160000	143000	241000	116000	65400	62900
22	62300	57400	45000	43000	92000	141000	192000	171000	237000	113000	65500	62200
23	62000	72900	40000	42000	81400	133000	214000	169000	239000	108000	65100	61700
24	61000	101000	38000	41000	75200	142000	216000	160000	244000	103000	64900	60900
25	60000	91200	39000	42000	74300	155000	207000	150000	238000	99700	65400	60100
26	59000	77100	36000	43000	75500	165000	190000	160000	222000	95400	65500	60000
27	57000	78900	34000	45000	77500	175000	174000	155000	208000	89900	65100	61000
28	55000	113000	31000	50000	77100	173000	163000	150000	197000	84400	64300	61900
29	52300	120000	28000	52000	75400	172000	163000	145000	189000	80400	64500	62100
30	51300	111000	25000	52000	---	155000	182000	140000	184000	81000	65200	61800
31	51400	---	24000	55000	---	140000	---	144000	---	81300	64700	---
TOTAL	1745100	2221000	1693400	1346000	2119500	3316300	5261000	5074000	6032300	4253100	2122400	1896900
MEAN	56290	74030	54630	43420	73090	107000	175400	163700	201100	137200	68460	63230
MAX	63800	120000	99500	55000	102000	175000	216000	248000	279000	206000	79200	72400
MIN	50800	52700	24000	24000	52400	56500	120000	116000	90000	80400	64300	60000

CAL YR 1983	TOTAL	32191700	MEAN	88200	MAX	314000	MIN	24000
WTR YR 1984	TOTAL	37081000	MEAN	101300	MAX	279000	MIN	24000

06910414 CEDAR CREEK NEAR ASHLAND, MO

WATER-QUALITY RECORDS

LOCATION.--Lat 38°45'29", long 92°10'28", in NW¼NW¼ sec.21, T.46 N., R.11 W., Boone County, Hydrologic Unit 10300102, at bridge on County Highway Y, 5.0 mi east of Ashland.

PERIOD OF RECORD.--November 1983 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS) (00061)	SPECIFIC CONDUCTANCE (UMHOS) (00095)	PH (STANDARD UNITS) (00400)	TEMPERATURE (DEG C) (00010)	OXYGEN, DISSOLVED (MG/L) (00300)	OXYGEN, DISSOLVED (PERCENT SATURATION) (00301)	OXYGEN DEMAND, CHEMICAL (HIGH LEVEL) (MG/L) (00340)	COLIFORM, FECAL, 0.7 UM-MF (COLS./100 ML) (31625)	HARDNESS (MG/L AS CACO3) (00900)
NOV 21...	1030	89	424	7.6	9.5	10.4	91	--	7400	210
DEC 13...	0930	334	235	7.6	4.0	12.6	95	28	3200	--
JAN 10...	0945	90	320	7.4	.5	14.4	97	19	440	150
FEB 14...	0920	90	401	7.5	3.5	12.8	95	28	110	--
MAR 13...	0945	80	438	7.8	1.5	14.0	98	18	52	--
APR 10...	0930	330	260	7.6	9.5	10.2	88	29	570	110
MAY 17...	1515	29	568	8.1	21.0	11.2	123	14	K40	--
JUN 12...	1030	30	350	7.7	25.5	5.8	70	30	2000	--
JUL 26...	1515	1.7	430	7.9	29.5	7.8	100	13	42	210
AUG 21...	1000	1.0	508	7.7	24.5	6.6	78	40	220	--
SEP 20...	1530	5.0	350	7.8	19.5	7.4	79	30	9	--

DATE	HARDNESS, NONCARBONATE (MG/L CACO3) (00902)	CALCIUM DISSOLVED (MG/L AS CA) (00915)	MAGNESIUM, DISSOLVED (MG/L AS MG) (00925)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	POTASSIUM, DISSOLVED (MG/L AS K) (00935)	ALKALINITY FIELD (MG/L AS CACO3) (00410)	CARBON DIOXIDE DISSOLVED (MG/L AS CO2) (00405)	SULFATE DISSOLVED (MG/L AS SO4) (00945)	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)	FLUORIDE, DISSOLVED (MG/L AS F) (00950)
NOV 21...	150	60	14	7.5	5.2	60	2.9	150	7.2	.20
DEC 13...	--	--	--	--	--	57	2.8	--	--	--
JAN 10...	88	43	9.7	6.1	3.2	60	4.6	90	6.0	.20
FEB 14...	--	--	--	--	--	56	3.4	--	--	--
MAR 13...	--	--	--	--	--	65	2.0	--	--	--
APR 10...	53	35	6.7	4.4	2.6	62	3.0	64	3.6	.20
MAY 17...	--	--	--	--	--	88	1.3	--	--	--
JUN 12...	--	--	--	--	--	50	1.9	--	--	--
JUL 26...	51	66	11	5.7	3.5	159	3.9	54	5.0	.30
AUG 21...	--	--	--	--	--	189	7.3	--	--	--
SEP 20...	--	--	--	--	--	118	3.6	--	--	--

K--Results based on colony count outside the acceptable range (non-ideal colony count).

06910414 CEDAR CREEK NEAR ASHLAND, MO--Continued

DATE	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L) (00530)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	PHOS-PHORUS, TOTAL (MG/L AS P) (00665)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD) (01027)	CADMIUM DIS-SOLVED (UG/L AS CD) (01025)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)
NOV										
21...	292	48	.70	.830	.140	1	<1	13	2	2500
DEC										
13...	--	54	1.2	.050	.110	--	--	--	--	--
JAN										
10...	210	23	1.5	.120	.030	1	<1	6	7	1100
FEB										
14...	--	48	1.0	.410	.070	--	--	--	--	--
MAR										
13...	--	15	.90	.060	<.010	--	--	--	--	--
APR										
10...	180	48	.60	.160	.110	<1	<1	5	3	2900
MAY										
17...	--	5	.30	.020	.010	--	--	--	--	--
JUN										
12...	--	75	1.1	.090	.050	--	--	--	--	--
JUL										
26...	248	4	<.10	.030	.020	<1	<1	2	2	130
AUG										
21...	--	11	<.10	<.010	.010	--	--	--	--	--
SEP										
20...	--	6	<.10	<.010	.010	--	--	--	--	--

DATE	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB) (01051)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG) (71900)	MERCURY DIS-SOLVED (UG/L AS HG) (71890)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN) (01092)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)
NOV									
21...	39	5	1	920	880	1.0	.1	150	78
DEC									
13...	--	--	--	--	--	--	--	--	--
JAN									
10...	110	1	<1	500	490	<.1	.1	100	53
FEB									
14...	--	--	--	--	--	--	--	--	--
MAR									
13...	--	--	--	--	--	--	--	--	--
APR									
10...	29	7	<1	270	210	<.1	<.1	60	40
MAY									
17...	--	--	--	--	--	--	--	--	--
JUN									
12...	--	--	--	--	--	--	--	--	--
JUL									
26...	8	<1	3	280	160	.1	<.1	40	22
AUG									
21...	--	--	--	--	--	--	--	--	--
SEP									
20...	--	--	--	--	--	--	--	--	--

06918070 OSAGE RIVER ABOVE SCHELL CITY, MO

LOCATION.--Lat 38°03'20", long 94°08'44", in SE¼SW¼NW¼ sec. 20, T.38 N., R.29 W., Bates County, Hydrologic Unit 10290105, 0.8 mi downstream from Shaw Branch, 0.2 mi upstream from McKenzie Creek, and 3.0 mi northwest of Schell City.

DRAINAGE AREA.--5,410 mi², by U.S. Army Corps of Engineers.

PERIOD OF RECORD.--October 1979 to present.

GAGE.--Water-stage recorder. Datum of gage is 700.00 ft National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 50,400 ft³/s June 20, 1981; minimum daily discharge, 61 ft³/s May 8, 1981.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 44,700 ft³/s Mar. 22.

DISCHARGE (CUBIC FEET/SECOND) WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	929	---	8680		1520	11100	8280	13300	1440	5260	---	
2	936	---	5400		1600	10400	8160	13400	1090	5120	---	
3	846	---	4690		1550	9280	12400	9750	999	4720	---	
4	531	---	8240		1430	7830	14800	9060	1110	4440	---	
5	241	4180	9760		1330	8540	14800	9370	854	4120	---	
6	---	3230	9210		1280	9710	12500	7350	667	3040	---	
7	---	---	6520		901	8720	8670	5360	627	2190	---	
8	---	1150	4450		700	5650	15700	4480	2270	2410	---	
9	---	952	3270		610	3690	22700	393	8760	2780	---	
10	---	8710	2700		638	2860	26100	3410	18300	2380	---	
11	---	985	3380		820	2460	27000	2810	23100	1390	---	
12	---	1460	5880		1100	2680	27200	2446	26300	1230	---	
13	---	1720	8260		2670	4090	25300	2000	26800	2510	---	
14	---	1510	6830		3320	6040	23100	1770	27400	1940	---	
15	---	1310	4160		2230	5790	20600	---	28200	1120	---	
16	---	1140	2580		1600	4690	14300	---	27900	1040	---	
17	---	940	1950		1310	8550	8930	---	22900	1360	---	
18	---	855	---		1250	13900	8090	---	12800	1310	---	
19	---	840	---		1250	27800	8450	---	4950	1290	---	
20	---	1040	---		1400	36100	8170	---	3890	1210	---	
21	---	1620	---		1430	42300	12400	1570	6120	1140	---	
22	---	1370	---		1310	44700	17200	1270	12400	1110	---	
23	---	4570	---		1160	41600	19900	1010	15900	1080	---	
24	---	7340	---		1030	35100	21700	756	17500	1040	---	
25	---	7470	---		925	29000	18500	688	17400	1020	---	
26	---	5430	---		1110	21100	13400	723	9390	762	---	
27	---	5580	---		5260	18300	9230	911	3770	---	---	
28	---	9120	---		10500	17300	7060	2200	3410	---	104	
29	---	11600	---		11500	15800	6140	4100	4490	---	---	
30	---	11700	---		---	13600	8030	2980	4680	---	---	
31	---	---	---		---	10400	---	2090	---	---	---	
TOTAL	---	---	---		62734	479080	448810	---	335417	---	---	
MEAN	---	---	---		2163	15450	14960	---	11180	---	---	
MAX	---	---	---		11500	44700	27200	---	28200	---	---	
MIN	---	---	---		610	2460	6140	---	627	---	---	

06918070 OSAGE RIVER ABOVE SCHELL CITY, MO.--Continued
(National stream-quality accounting network station)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--March 1979 to current year, formerly published as 06918080 Osage River near Schell City, Mo.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: March 1979 to September 1981.
WATER TEMPERATURE: March 1979 to September 1981.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum daily, 1,950 micromhos October 11, 1980; minimum daily, 114 micromhos June 12, 1981.
WATER TEMPERATURE: Maximum daily, 32.0°C July 11, 1980; minimum daily, 0.0°C February 5, 1980, February 11-14, 1981.

WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS) (00061)	SPE-CIFIC CON-DUCT-ANCE (UMHOS) (00095)	PH (STAND-ARD UNITS) (00400)	TEMPER-ATURE (DEG C) (00010)	TUR-BID-ITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)
NOV 08...	0800	1250	340	7.3	14.0	150	8.4	61	1200	5000
JAN 05...	1630	E200	600	7.5	1.0	12	11.6	81	260	430
MAR 07...	1630	8300	370	7.7	8.0	220	8.8	74	1200	1200
MAY 11...	0900	3040	430	8.0	16.5	.80	8.8	90	160	70
JUL 13...	1000	2400	274	7.6	26.5	180	5.8	71	1000	1300
SEP 14...	1030	300	500	7.3	25.0	65	3.6	43	460	260

DATE	HARD-NESS (MG/L AS CACO3) (00900)	HARD-NESS, NONCAR-BONATE (MG/L CACO3) (00902)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	PERCENT SODIUM (00932)	SODIUM AD-SORP-TION RATIO (00931)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ALKA-LINITY FIELD (MG/L AS CACO3) (00410)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)
NOV 08...	150	56	45	8.1	12	15	.5	4.7	90	59
JAN 05...	280	120	87	16	21	14	.6	2.8	169	130
MAR 07...	160	54	50	7.8	12	14	.4	3.0	103	61
MAY 11...	190	48	60	10	12	12	.4	2.5	144	68
JUL 13...	120	20	41	4.8	6.6	10	.3	3.3	103	18
SEP 14...	170	73	48	13	34	29	1	5.3	101	92

DATE	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	SOLIDS, DIS-SOLVED (TONS PER AC-FT) (70303)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)
NOV 08...	8.1	.20	8.7	221	200	.30	746	1.4	.100
JAN 05...	17	.20	8.7	416	390	.57	--	2.0	.180
MAR 07...	11	.20	6.8	246	210	.33	5510	1.6	.160
MAY 11...	7.0	.50	6.7	271	250	.37	2220	.98	.040
JUL 13...	6.0	.20	7.0	162	150	.22	1050	1.3	.070
SEP 14...	38	.30	5.8	309	300	.42	250	.46	.330

E--Estimated value

06918070 OSAGE RIVER ABOVE SCHELL CITY, MO--Continued

DATE	NITROGEN, AMMONIA DISSOLVED (MG/L AS NH4) (71846)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N) (00625)	PHOSPHORUS, TOTAL (MG/L AS P) (00665)	PHOSPHORUS TOTAL (MG/L AS PO4) (71886)	PHOSPHORUS, DISSOLVED (MG/L AS P) (00666)	PHOSPHORUS, ORTHO, DISSOLVED (MG/L AS P) (00671)	SEDIMENT, SUSPENDED (MG/L) (80154)	SEDIMENT, DISCHARGE, SUSPENDED (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
NOV 08...	.13	2.0	.200	.61	.070	.050	208	702	92
JAN 05...	.23	.80	.070	.21	<.010	<.010	94	--	57
MAR 07...	.21	1.4	.290	.89	.040	.060	402	9010	95
MAY 11...	.05	1.1	.080	.25	.030	.010	157	1290	92
JUL 13...	.09	2.0	.250	--	.050	.190	426	2760	96
SEP 14...	.43	1.2	.150	--	.020	.030	115	93	87

DATE	ALUMINUM, DISSOLVED (UG/L AS AL) (01106)	ARSENIC DISSOLVED (UG/L AS AS) (01000)	BARIUM, DISSOLVED (UG/L AS BA) (01005)	BERYLLIUM, DISSOLVED (UG/L AS BE) (01010)	CADMIUM DISSOLVED (UG/L AS CD) (01025)	CHROMIUM, DISSOLVED (UG/L AS CR) (01030)	COBALT, DISSOLVED (UG/L AS CO) (01035)	COPPER, DISSOLVED (UG/L AS CU) (01040)	IRON, DISSOLVED (UG/L AS FE) (01046)	LEAD, DISSOLVED (UG/L AS PB) (01049)
NOV 08...	130	1	75	<.5	1	<1	<3	6	93	2
JAN 05...	10	3	90	<.5	<1	<1	<3	2	8	8
MAY 11...	30	<1	84	.5	<1	1	<3	8	26	<1
JUL 13...	50	<1	79	<1.0	<1	<1	<3	3	41	<1

DATE	LITHIUM DISSOLVED (UG/L AS LI) (01130)	MANGANESE, DISSOLVED (UG/L AS MN) (01056)	MERCURY DISSOLVED (UG/L AS HG) (71890)	MOLYBDENUM, DISSOLVED (UG/L AS MO) (01060)	NICKEL, DISSOLVED (UG/L AS NI) (01065)	SELENIUM, DISSOLVED (UG/L AS SE) (01145)	SILVER, DISSOLVED (UG/L AS AG) (01075)	STRONTIUM, DISSOLVED (UG/L AS SR) (01080)	VANADIUM, DISSOLVED (UG/L AS V) (01085)	ZINC, DISSOLVED (UG/L AS ZN) (01090)
NOV 08...	15	44	<.1	<10	6	1	<1	250	<6	20
JAN 05...	13	160	<.1	<10	15	1	1	450	<6	47
MAY 11...	11	79	<.1	<10	4	<1	<1	320	<6	38
JUL 13...	<4	4	<.1	<10	<1	<1	<1	200	<6	32

06918440 SAC RIVER NEAR DADEVILLE, MO

LOCATION.--Lat 37°26'35", long 93°41'05", in NE¼NE¼NW¼ sec.9, T.31 N., R.25 W., Dade County, Hydrologic Unit 10290106, on downstream side of bridge on State Highway 245, 2 mi upstream from Cave Spring Branch and 2 mi south of Dadeville.

DRAINAGE.--257 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1966 to current year. Annual maximum, water years 1965-66.

GAGE.--Water-stage recorder. Datum of gage is 869.78 ft National Geodetic Vertical Datum of 1929 (levels by Missouri State Highway Commission). Prior to June 1966, crest-stage gage at same site and datum.

REMARKS.--Water-discharge records fair.

AVERAGE DISCHARGE.--18 years, 218 ft³/s, 11.52 in/yr, 157,900 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,030 ft³/s Nov. 1, 1972, gage height, 20.63 ft from floodmark; minimum, 4.0 ft³/s Sept. 16, 1980.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 3,000 ft³/s and maximum (*):

Date	Time	Discharge (ft³/s)	Gage height (ft)
Oct. 20	1330	3,210	13.62
Mar. 19	0830	3,000	13.20
Apr. 21	1100	*4,020	15.06

Minimum discharge, 12 ft³/s Sept. 8.

DISCHARGE (CUBIC FEET/SECOND) WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19	127	300	149	159	608	736	400	114	62	33	16
2	18	118	285	140	157	649	798	375	108	60	32	15
3	17	146	332	131	152	722	1300	350	106	60	32	16
4	20	768	416	133	145	2110	900	350	122	60	36	17
5	25	448	419	147	142	1730	800	350	108	60	32	17
6	24	362	392	177	133	1140	700	350	103	60	29	16
7	23	308	356	200	130	892	650	320	99	600	28	14
8	22	268	329	214	127	749	1000	300	92	300	45	16
9	23	254	303	280	126	657	1100	280	89	200	56	135
10	22	262	230	521	128	602	900	260	131	174	39	38
11	26	249	320	499	124	548	1000	240	131	152	34	28
12	33	238	335	442	124	539	900	225	105	129	31	24
13	27	230	332	399	125	531	800	215	90	110	29	22
14	24	216	335	352	123	482	750	205	84	97	28	21
15	20	200	314	323	121	458	675	195	80	87	27	21
16	58	184	294	306	120	440	600	190	105	80	25	19
17	380	171	277	280	119	590	525	180	84	79	24	18
18	87	161	265	262	120	897	475	160	79	68	23	18
19	103	232	246	249	114	2690	450	175	405	61	25	18
20	2170	314	246	235	112	1730	998	175	329	58	25	16
21	1450	300	227	225	110	1200	3450	175	246	53	23	16
22	644	260	227	210	109	944	2120	159	154	49	22	18
23	461	455	282	195	107	786	1400	142	125	46	22	24
24	358	464	225	189	104	748	1100	131	106	44	20	22
25	291	419	249	189	101	708	900	127	96	41	18	21
26	251	377	227	187	225	652	750	127	87	40	18	19
27	219	443	184	179	779	706	650	142	81	39	20	23
28	192	411	179	174	728	929	575	161	75	38	22	26
29	166	362	166	169	647	1070	500	140	70	37	22	25
30	152	329	159	169	---	912	450	127	65	35	18	23
31	138	---	161	161	---	807	---	120	---	34	16	---
TOTAL	7463	9076	8662	7486	5511	28226	27952	6866	3669	3013	854	722
MEAN	241	303	279	241	190	911	932	221	122	97.2	27.5	24.1
MAX	2170	768	419	521	779	2690	3450	400	405	600	56	135
MIN	17	118	159	131	101	440	450	120	65	34	16	14

CAL YR 1983	TOTAL	100409	MEAN	275	MAX	3520	MIN	17
WTR YR 1984	TOTAL	109500	MEAN	299	MAX	3450	MIN	14

06918440 SAC RIVER NEAR DADEVILLE, MO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--November 1983 to current year.

PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: June 1974 to September 1978; October 1980 to September 1982.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: Maximum, 28.5°C August 22, 23, 1975; minimum, 0.0°C on many days during winter periods.

WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS) (00061)	SPE-CIFIC CON-DUCT-ANCE (UMHOS) (00095)	PH (STAND-ARD UNITS) (00400)	TEMPER-ATURE (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L) (00340)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	HARD-NESS (MG/L AS CACO3) (00900)
NOV										
10...	0900	265	405	8.0	10.0	9.0	80	<10	230	220
DEC										
06...	1430	389	419	8.0	8.0	11.4	95	11	200	--
JAN										
03...	1445	131	382	8.0	3.0	14.2	104	--	23	210
FEB										
06...	1330	101	401	8.0	2.0	15.4	110	<10	8	--
MAR										
05...	1500	1560	343	7.9	8.5	10.4	89	18	2100	--
APR										
02...	1400	674	377	7.9	10.0	10.2	91	14	250	190
MAY										
08...	1220	752	380	7.9	14.5	10.8	105	<10	1200	--
JUN										
05...	1230	84	412	8.1	21.0	8.4	94	42	270	--
JUL										
10...	1545	136	376	7.8	24.5	5.0	60	19	1200	180
AUG										
06...	1415	29	418	8.1	25.0	7.7	92	<10	53	--
SEP										
11...	1320	29	319	7.7	24.5	5.4	64	50	950	--

DATE	HARD-NESS, NONCAR-BONATE (MG/L CACO3) (00902)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ALKA-LINITY FIELD (MG/L AS CACO3) (00410)	CARBON DIOXIDE DIS-SOLVED (MG/L AS CO2) (00405)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)
NOV										
10...	22	76	6.7	3.3	1.8	196	3.8	10	8.[illegible]	<.10
DEC										
06...	--	--	--	--	--	196	3.8	--	--	--
JAN										
03...	31	75	6.7	4.2	.90	184	3.5	9.3	10	<.10
FEB										
06...	--	--	--	--	--	194	3.7	--	--	--
MAR										
05...	--	--	--	--	--	144	3.5	--	--	--
APR										
02...	17	66	5.3	3.1	1.3	170	4.1	9.7	8.7	<.10
MAY										
08...	--	--	--	--	--	179	4.3	--	--	--
JUN										
05...	--	--	--	--	--	191	2.9	--	--	--
JUL										
10...	13	64	5.5	3.5	3.2	170	5.2	9.5	8.0	<.10
AUG										
06...	--	--	--	--	--	182	2.8	--	--	--
SEP										
11...	--	--	--	--	--	142	5.5	--	--	--

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06918440 SAC RIVER NEAR DADEVILLE, MO--Continued

DATE	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, RESIDUE AT 105 DEG. C SUS-PENDED (MG/L) (00530)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	PHOS-PHORUS, TOTAL (MG/L AS P) (00665)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD) (01027)	CADMIUM DIS-SOLVED (UG/L AS CD) (01025)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)
NOV 10...	263	16	2.0	.030	.050	<1	1	5	2	440
DEC 06...	--	5	2.0	<.010	.030	--	--	--	--	--
JAN 03...	230	<1	2.0	<.010	.010	2	<1	<1	5	70
FEB 06...	--	<2	1.9	<.010	<.010	--	--	--	--	--
MAR 05...	--	120	2.1	.050	.110	--	--	--	--	--
APR 02...	226	42	2.0	.060	.040	<1	<1	7	3	520
MAY 08...	--	19	1.8	.010	.020	--	--	--	--	--
JUN 05...	--	33	1.9	.030	.050	--	--	--	--	--
JUL 10...	219	<2	1.4	.040	.130	<1	<1	5	3	1200
AUG 06...	--	12	1.2	.020	.060	--	--	--	--	--
SEP 11...	--	12	1.0	.040	.240	--	--	--	--	--

DATE	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB) (01051)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG) (71900)	MERCURY DIS-SOLVED (UG/L AS HG) (71890)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN) (01092)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)
NOV 10...	36	4	2	60	25	.2	<.1	460	25
DEC 06...	--	--	--	--	--	--	--	--	--
JAN 03...	20	2	1	20	14	<.1	<.1	20	18
FEB 06...	--	--	--	--	--	--	--	--	--
MAR 05...	--	--	--	--	--	--	--	--	--
APR 02...	8	2	<1	60	16	.2	<.1	40	37
MAY 08...	--	--	--	--	--	--	--	--	--
JUN 05...	--	--	--	--	--	--	--	--	--
JUL 10...	27	7	7	100	36	.6	<.1	30	73
AUG 06...	--	--	--	--	--	--	--	--	--
SEP 11...	--	--	--	--	--	--	--	--	--

06918460 TURNBACK CREEK ABOVE GREENFIELD, MO

LOCATION.--Lat 37°24'09", long 93°48'06", on line between secs. 21 and 28, T. 31 N., R. 26 W., Dade County, Hydrologic Unit 10290106, on downstream side of left pier of bridge on State Highway O, 1.5 mi downstream from Limestone Creek, and 2 mi southeast of Greenfield.

DRAINAGE AREA.--252 mi^2.

PERIOD OF RECORD.--September 1965 to current year.

GAGE.--Water-stage recorder. Datum of gage is 870.34 ft National Geodetic Vertical Datum of 1929 (levels by Missouri State Highway Commission).

REMARKS.--Records fair. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCAHRGE.--19 years, 241 ft^3/s, 12.99 in/yr, 174,600 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 41,000 ft^3/s Nov. 1, 1972, gage height, 24.45 ft from floodmark; minimum, 9.8 ft^3/s Sept. 15, 1980.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 3,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)
Oct. 20	--	3,500	--
Mar. 4	0930	5,770	15.74
Mar. 19	0700	4,640	14.79
Apr. 21	0545	*7,790	17.02

Minimum discharge, 19 ft^3/s Sept. 21.

REVISIONS.--Revised peak discharges for the following water years:

Water year	Date	Discharge (ft^3/s)	Gage height (ft)	Water year	Date	Discharge (ft^3/s)	Gage height (ft)
1968	Feb. 1	6,880	16.51	1974	June 7	13,600	19.15
	Aug. 10	6,340	16.16		Nov. 25	11,600	18.54
1970	Oct. 12	5,670	15.66		Dec. 4	6,100	16.00
	Apr. 30	8,140	17.20		Mar. 10	11,100	18.36
1972	Apr. 21	5,500	15.52	1976	July 4	5,830	15.79
1973	Nov. 1	41,000	24.45	1978	Mar. 24	4,970	15.10
	Nov. 13	7,330	16.77	1979	May 20	14,100	19.29
	Mar. 6	6,410	16.21		June 23	10,100	18.05
	Mar. 10	12,000	18.69	1983	Apr. 23	9,380	17.76
	Mar. 25	6,650	16.37		May 1	6,680	16.39
	Apr. 22	9,040	17.62		July 4	8,890	17.56

DISCHARGE (CUBIC FEET/SECOND) WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	27	155	480	180	199	726	777	565	148	79	35	21
2	27	140	442	170	194	855	941	521	142	77	35	19
3	25	160	529	160	192	1010	1350	485	140	74	34	19
4	27	900	627	160	186	3420	869	442	137	77	34	24
5	33	600	575	160	179	2090	962	420	132	79	32	24
6	35	490	517	180	171	1180	850	426	130	75	31	22
7	31	400	464	200	166	940	777	404	125	470	30	22
8	31	340	419	200	161	939	1310	371	119	296	31	26
9	31	290	385	350	161	820	1600	339	114	195	37	71
10	31	300	357	682	164	719	926	314	207	158	35	58
11	34	280	390	536	161	638	1000	293	164	134	33	42
12	40	260	389	539	159	621	953	276	143	115	31	35
13	36	240	367	475	157	598	917	260	132	104	29	30
14	32	230	368	420	154	532	859	250	124	95	28	28
15	30	220	338	382	149	500	788	241	118	88	27	27
16	32	200	313	356	146	488	714	233	112	82	27	25
17	70	190	296	328	145	1070	645	222	105	85	26	25
18	47	180	283	304	144	1270	585	213	148	78	26	24
19	145	380	269	290	138	3290	537	208	172	72	25	24
20	2200	450	260	280	136	1870	840	210	177	68	26	23
21	1500	400	255	270	135	1250	4160	180	168	64	25	21
22	1000	350	245	260	133	956	1920	194	139	60	25	22
23	700	600	300	260	131	890	1450	184	126	54	25	26
24	550	580	250	260	129	890	859	176	114	52	25	25
25	400	460	280	250	126	835	1040	171	103	50	24	23
26	350	400	240	250	345	767	910	167	93	47	24	23
27	300	900	220	240	806	864	815	179	95	45	26	25
28	250	700	205	231	761	875	740	194	91	42	26	26
29	225	600	195	223	720	989	669	173	86	41	26	26
30	200	309	185	213	---	977	616	163	83	39	24	26
31	175	---	190	205	---	853	---	155	---	37	22	---
TOTAL	8614	11704	10633	9074	6548	33722	31379	8629	3887	3032	884	832
MEAN	278	390	343	293	226	1088	1046	278	130	97.8	28.5	27.7
MAX	2200	900	627	682	806	3420	4160	565	207	470	37	71
MIN	25	140	185	160	126	488	537	155	83	37	22	19

CAL YR 1983	TOTAL	116111	MEAN	318	MAX	5340	MIN	25
WTR YR 1984	TOTAL	128938	MEAN	352	MAX	4160	MIN	19

06918600 LITTLE SAC RIVER NEAR WALNUT GROVE, MO

WATER-QUALITY RECORDS

LOCATION.--Lat 37°23'55", long 93°24'36", in NW¼SE¼ sec.24, T.31 N., R.23 W., Greene County, Hydrologic Unit 10290106, at bridge on County Highway BB, 7.5 mi east of Walnut Grove.

PERIOD OF RECORD.--October 1983 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS) (00061)	SPE-CIFIC CON-DUCT-ANCE (UMHOS) (00095)	PH (STAND-ARD UNITS) (00400)	TEMPER-ATURE (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L) (00340)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	HARD-NESS (MG/L AS CACO3) (00900)
OCT										
18...	1315	40	529	7.8	16.0	6.6	67	20	290	--
NOV										
10...	1030	50	440	7.8	10.5	7.8	70	20	190	210
DEC										
06...	1300	194	406	8.0	7.5	11.0	91	13	90	--
JAN										
03...	1345	40	477	7.9	2.5	14.0	102	--	2	230
FEB										
06...	1245	40	499	8.1	2.0	15.6	112	20	1	--
MAR										
05...	1330	895	344	7.9	8.5	11.2	95	22	660	--
APR										
02...	1300	250	395	7.8	10.0	9.6	86	16	24	170
MAY										
08...	1430	100	420	8.2	15.5	13.4	133	11	84	--
JUN										
05...	1330	28	595	8.0	22.0	8.0	92	37	80	--
JUL										
10...	1415	40	494	7.8	25.5	5.4	66	22	240	210
AUG										
06...	1315	30	611	7.8	26.0	7.3	89	80	88	--
SEP										
11...	1230	30	684	7.6	24.5	4.8	57	30	640	--

DATE	HARD-NESS, NONCAR-BONATE (MG/L CACO3) (00902)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ALKA-LINITY FIELD (MG/L AS CACO3) (00410)	CARBON DIOXIDE DIS-SOLVED (MG/L AS CO2) (00405)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)
OCT										
18...	--	--	--	--	--	181	5.5	--	--	--
NOV										
10...	26	74	6.7	12	2.7	187	5.7	19	17	.30
DEC										
06...	--	--	--	--	--	166	3.2	--	--	--
JAN										
03...	33	79	7.0	13	2.3	193	4.7	18	21	.20
FEB										
06...	--	--	--	--	--	182	2.8	--	--	--
MAR										
05...	--	--	--	--	--	135	3.3	--	--	--
APR										
02...	22	61	5.5	6.5	1.8	153	4.7	15	11	.10
MAY										
08...	--	--	--	--	--	179	2.2	--	--	--
JUN										
05...	--	--	--	--	--	217	4.2	--	--	--
JUL										
10...	23	72	8.1	16	3.7	191	5.8	19	17	.70
AUG										
06...	--	--	--	--	--	185	5.7	--	--	--
SEP										
11...	--	--	--	--	--	182	8.8	--	--	--

06918600 LITTLE SAC RIVER NEAR WALNUT GROVE, MO--Continued

DATE	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDED (MG/L) (00530)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	PHOS- PHORUS, TOTAL (MG/L AS P) (00665)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD) (01027)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU) (01042)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE) (01045)
OCT 18...	--	22	3.0	.820	.840	--	--	--	--	--
NOV 10...	263	1	2.9	.080	.250	1	<1	12	8	610
DEC 06...	--	2	2.2	.080	.130	--	--	--	--	--
JAN 03...	275	5	2.9	.610	.290	<1	<1	8	<5	160
FEB 06...	--	<2	2.8	.200	.370	--	--	--	--	--
MAR 05...	--	45	1.5	.070	.100	--	--	--	--	--
APR 02...	230	17	2.0	.210	.110	<1	<1	12	5	220
MAY 08...	--	5	2.2	.030	.170	--	--	--	--	--
JUN 05...	--	21	2.7	.030	.420	--	--	--	--	--
JUL 10...	284	23	.50	.040	.500	<1	<1	6	3	480
AUG 06...	--	12	2.3	.260	1.50	--	--	--	--	--
SEP 11...	--	14	2.5	2.60	1.80	--	--	--	--	--

DATE	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB) (01051)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN) (01055)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG) (71900)	MERCURY DIS- SOLVED (UG/L AS HG) (71890)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN) (01092)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)
OCT 18...	--	--	--	--	--	--	--	--	--
NOV 10...	35	4	3	50	23	.1	<.1	60	12
DEC 06...	--	--	--	--	--	--	--	--	--
JAN 03...	22	<1	<1	30	18	.1	<.1	30	13
FEB 06...	--	--	--	--	--	--	--	--	--
MAR 05...	--	--	--	--	--	--	--	--	--
APR 02...	8	<1	<1	60	20	<.1	.2	20	28
MAY 08...	--	--	--	--	--	--	--	--	--
JUN 05...	--	--	--	--	--	--	--	--	--
JUL 10...	11	3	<1	90	55	.3	<.1	<10	27
AUG 06...	--	--	--	--	--	--	--	--	--
SEP 11...	--	--	--	--	--	--	--	--	--

06918740 LITTLE SAC RIVER NEAR MORRISVILLE, MO

LOCATION.--Lat 37°28'58", long 93°29'07", SW¼SW¼ sec.20, T.32 N., R.23 W., Polk County, Hydrologic Unit 10290106, on downstream side of center pier of Hamilton Bridge on State Highway 215, 0.7 mi upstream from Slagle Creek and 3 mi west of Morrisville.

DRAINAGE AREA.--237 mi^2.

PERIOD OF RECORD.--October 1968 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 881 ft (from topographic map).

REMARKS.--Records good. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--16 years, 217 ft^3/s, 12.43 in/yr, 157,200 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge 22,300 ft^3/s Nov. 1, 1972, gage height, 21.95 ft , minimum, 0.3 ft^3/s Sept. 15, 1980.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 3,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)
Oct. 17	0445	3,250	9.52
Oct. 20	1230	9,300	15.79
Mar. 4	1030	6,930	13.93
Mar. 18	1930	6,880	13.88
Apr. 21	0545	*10,300	16.45
July 7	1215	4,940	11.69

Minimum discharge, 6.3 ft^3/s Aug. 28.

REVISIONS.--Revised peak discharges for the following water years:

Water year	Date	Discharge (ft^3/s)	Gage height (ft)	Water year	Date	Discharge (ft^3/s)	Gage height (ft)
1969	Jan. 29	6,120	13.12	1975	Nov. 4	9,050	15.62
1970	Apr. 30	11,300	17.05	1977	Sept. 27	8,360	15.12
1972	Apr. 21	10,900	16.81	1978	Mar. 24	7,650	14.55
1973	Nov. 1	22,300	21.95	1979	July 1	9,070	15.63
	Nov. 13	11,200	16.97		Apr. 11	8,440	15.18
	Mar. 10	8,360	15.12		May 20	8,620	15.31
	Apr. 22	12,400	17.69	1981	June 20	14,200	18.59
1974	Mar. 10	11,300	17.08	1983	Dec. 3	8,060	14.89
					Apr. 2	9,380	15.85

DISCHARGE (CUBIC FEET/SECOND) WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.2	115	228	125	130	724	576	300	76	26	11	13
2	11	106	217	120	126	870	777	276	64	24	11	15
3	10	127	380	115	126	944	1410	260	58	24	11	17
4	9.6	1010	715	110	123	4190	931	237	54	42	19	24
5	23	551	528	130	116	1990	723	225	50	67	18	21
6	18	371	422	200	111	1130	593	296	45	39	13	16
7	17	288	348	320	104	801	547	284	41	1390	11	9.9
8	15	236	299	305	96	649	1200	263	37	383	11	13
9	14	218	264	560	98	539	1930	217	35	170	18	90
10	13	243	238	994	101	472	1190	191	57	111	16	44
11	14	233	349	623	104	405	842	172	81	109	13	33
12	21	212	440	494	164	449	947	158	72	93	11	30
13	24	192	380	413	285	459	744	150	58	74	11	22
14	23	176	400	341	254	389	612	138	50	64	9.5	14
15	19	161	348	301	219	370	547	131	53	60	8.5	13
16	154	150	300	270	206	365	498	127	52	50	8.4	12
17	1460	139	260	241	178	731	443	118	43	45	9.1	11
18	221	127	238	220	162	2500	392	109	36	41	13	11
19	224	454	225	210	159	4220	350	100	93	37	10	9.7
20	5670	548	210	200	149	1890	723	105	1270	33	11	9.6
21	2380	398	195	195	134	1140	5980	100	458	30	11	8.9
22	757	320	195	190	129	792	1810	94	175	27	9.9	12
23	495	726	250	180	126	645	1110	87	108	26	8.8	19
24	356	656	200	170	122	630	803	80	79	23	8.2	27
25	277	486	220	162	115	627	669	74	59	21	7.5	27
26	224	382	170	164	944	592	570	78	51	18	7.2	22
27	189	371	150	156	1730	659	507	94	44	17	7.2	18
28	166	345	140	153	1010	1290	414	145	38	16	7.4	20
29	152	288	130	152	759	1150	385	121	32	14	7.9	23
30	139	258	130	144	---	809	348	101	28	13	8.2	21
31	127	---	130	135	---	663	---	88	---	12	7.2	---
TOTAL	13231.8	9887	8699	8093	8080	33084	28571	4919	3397	3099	334.0	626.1
MEAN	427	330	281	261	279	1067	952	159	113	100	10.8	20.9
MAX	5670	1010	715	994	1730	4220	5980	300	1270	1390	19	90
MIN	9.2	106	130	110	96	365	348	74	28	12	7.2	8.9

CAL YR 1983	TOTAL	92865.0	MEAN	254	MAX	5940	MIN	7.6
WTR YR 1984	TOTAL	122020.9	MEAN	333	MAX	5980	MIN	7.2

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06918990 STOCKTON LAKE NEAR STOCKTON, MO

LOCATION.--Lat 37°41'38", long 93°45'55", SW¼SE¼SW¼ sec.10, T.34 N., R.26 W., Cedar County, Hydrologic Unit 10290106, in power house at dam on Sac River, 2 mi east of Stockton.

DRAINAGE AREA.--1,160 mi^2.

PERIOD OF RECORD.--October 1969 to current year.

GAGE.--Water-stage recorder. Non-recording gage prior to May 30, 1973. Datum of gage is at National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers).

REMARKS.--Lake is formed by a rock shell earth-fill dam (crest elevation, 911 ft). Spillway is equipped with 4 taintor gates, 40 ft by 30.5 ft, crest elevation, 861.5 ft. Embankment closed and river diverted on Sept. 23, 1968. Gates closed and storage began on Dec. 12, 1969; minimum power elevation 830.0 ft reached on May 1, 1970. Gross storage at top of flood control pool is 1,666,659 acre-ft at elevation 892 ft, of which 779,550 acre-ft between elevations 867 ft and 892 ft is used for flood control, and 887,109 acre-ft between elevations 760 ft and 867 ft is used for multipurpose and power. Sedimentation reserve is 25,000 acre-ft. Lake is used for flood control, power, and recreational purposes.

COOPERATION.--Records furnished by Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 1,450,000 acre-ft Apr. 28, 1973, elevation, 885.94 ft; minimum, since initial filling to minimum power pool level, 352,000 acre-ft Aug. 27 to Sept. 4, 1970, elevation, 839.60 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 1,190,000 Apr. 24-26, elevation, 878.07 ft, minimum contents, 726,300 acre-ft Oct. 10; elevation, 860.13 ft Sept. 30.

Capacity table (elevation, in feet NGVD, and contents, in acre-ft)

859	701,700	870	963,400
862	768,300	875	1,100,000
866	862,500	877	1,158,000

RESERVOIR STORAGE (AC-FT), WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	756200	835600	908800	905700	853700	874200	1081000	1174000	1037000	941000	859100	780500
2	756200	836600	905500	901200	854900	878100	1086000	1170000	1036000	936600	855200	780100
3	751600	844000	907500	896400	857900	888700	1094000	1166000	1035000	933800	852200	780100
4	750300	858100	909300	893200	856600	922900	1098000	1163000	1030000	931000	848400	779600
5	745600	863000	912100	889700	857900	934100	1100000	1162000	1026000	928500	845000	779200
6	741300	866200	916300	887700	856600	938900	1101000	1161000	1023000	926200	841600	776900
7	736000	869100	918900	883800	856900	939200	1105000	1155000	1019000	930700	837800	774200
8	732900	871700	922100	879800	857400	940700	1113000	1153000	1011000	929500	835800	775700
9	731400	871700	924200	879600	858600	940000	1124000	1149000	1008000	927400	833700	776400
10	726300	869800	925900	881000	860100	938700	1128000	1143000	1006000	924700	833700	774400
11	727200	872000	931300	879300	861800	937600	1131000	1139000	1001000	923400	830600	771700
12	727400	873700	935600	877100	862500	936600	1136000	1133000	995200	920600	827800	768500
13	727400	875400	938700	874700	861100	935300	1136000	1129000	988500	917100	825400	763900
14	727400	875400	941800	871500	856900	934600	1136000	1124000	982200	914300	821600	760500
15	726600	877600	943800	868600	852000	931800	1134000	1119000	979800	910800	817900	760300
16	726600	878600	946700	864200	846900	931500	1134000	1113000	978800	908500	814100	759800
17	734900	880300	947700	860600	842600	936100	1131000	1107000	977500	905700	810300	759600
18	740900	880300	950000	856900	842100	954500	1129000	1102000	978000	903200	808000	759100
19	743100	887500	952400	851800	841800	987500	1126000	1097000	977700	899900	805400	755900
20	789300	888700	954200	847200	841800	1001000	1132000	1092000	979300	897200	802500	753200
21	813400	885200	955500	848600	840600	1011000	1170000	1086000	977700	893900	798800	749800
22	819100	884200	952600	850100	840400	1019000	1184000	1082000	975900	890700	796200	750700
23	821400	893200	947200	850100	839000	1026000	1188000	1078000	974600	888200	793900	751000
24	824000	898700	940700	851500	836800	1033000	1190000	1071000	972200	885000	791300	747600
25	826800	902700	936400	853200	836100	1039000	1190000	1064000	968800	881300	790900	743300
26	828200	906000	936100	854400	844200	1045000	1190000	1067000	965500	878300	790600	743100
27	830100	917100	936100	856200	853200	1052000	1187000	1058000	965500	875600	788300	743100
28	831300	915800	926900	857600	860800	1064000	1184000	1050000	955300	872200	785800	742700
29	832500	913600	921600	858900	867900	1073000	1179000	1045000	950000	868800	783300	736700
30	833200	911300	917100	855200	---	1079000	1177000	1043000	945100	865700	780800	734500
31	834400	---	911800	854400	---	1079000	---	1037000	---	862500	781000	---
WTR YR 1984												
(†)	864.84	867.97	867.99	865.67	866.22	874.27	877.64	872.75	869.30	866.00	862.56	860.50
(‡)	+78200	+76900	+500	-57400	+13500	+211100	+98000	-140000	-91900	-82600	-81500	-46500
MAX	834400	917100	955500	905700	867900	1079000	1190000	1174000	1037000	941000	859100	780500
MIN	726300	835600	905500	847200	836100	874200	1081000	1037000	945100	862500	780800	734500

CAL YR 1983..................(‡) -24800
WTR YR 1984..................(‡) -21700

(†) Elevation, in feet NGVD, at end of month.
(‡) Change in contents, in acre-feet.

06919000 SAC RIVER NEAR STOCKTON, MO

LOCATION.--Lat 37°41'51", long 93°45'43", in SE¼NW¼SE¼ sec.10, T.34 N., R.26 W., Cedar County, Hydrologic Unit 10290106, on left bank 0.5 mi upstream from bridge on State Highway 32, 0.5 mi downstream from Stockton Dam, 2.0 mi upstream from Bear Creek, 2.0 mi east of Stockton, and at mile 49.5

DRAINAGE AREA.--1,160 mi^2, approximately.

PERIOD OF RECORD.--July 1921 to current year.

REVISED RECORDS.--WSP 926: 1940.

GAGE.--Water-stage recorder. Datum of gage is 758.12 ft National Geodetic Vertical Datum of 1929. Prior to Sept. 30, 1973, all previous gages at site 0.5 mi downstream and at datum 6.00 ft higher. Prior to May 4, 1960, nonrecording gage. Datum lowered 6.00 ft Oct. 1, 1978.

REMARKS.--Records fair except periods of backwater from Bear Creek which are poor. Several observations of water temperature and specific conductance were made during the year. Flow regulated by Stockton Lake since Dec. 12, 1969.

AVERAGE DISCHARGE.--63 years, 969 ft^3/s, 702,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 120,000 ft^3/s May 19, 1943, gage height, 31.8 ft; no flow Sept. 9-23, 1954, Oct. 14, 17-20, 1956.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known prior to 1943, 29.3 ft in July 1909.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 3,660 ft^3/s May 24, 25; minimum daily, 46 ft^3/s Sept. 27, 28.

DISCHARGE (CUBIC FEET/SECOND) WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	64	57	3070	3220	1050	60	2660	3540	764	1710	1200	54
2	58	57	3020	3010	61	2130	3210	3510	64	1420	1680	54
3	1460	57	3020	2780	60	100	2840	3420	1360	1580	1500	55
4	1480	57	3090	2400	61	60	3330	2800	3090	1520	1500	55
5	2220	57	427	2520	56	3110	3080	3180	2770	1440	1440	55
6	2560	57	64	2380	960	3150	3140	3070	2380	1480	1520	885
7	2380	57	64	2950	463	3120	3100	3160	2740	1530	1510	1020
8	1400	57	64	3240	58	3130	2000	2480	3540	1730	1440	512
9	634	900	64	3200	58	3140	2000	3260	1070	1300	1430	64
10	2570	2320	64	3280	58	3200	2600	3380	2620	1800	66	895
11	88	81	64	3160	57	2980	3180	3430	3620	1240	684	1180
12	54	64	64	3000	56	2960	3240	3590	3100	1140	1200	1500
13	57	62	64	3000	865	3150	3260	3170	3440	1390	1120	1510
14	58	61	64	3000	2960	2990	3210	3520	3480	1580	1460	1660
15	59	60	64	3000	2860	2950	3240	3440	2020	1560	1520	70
16	57	60	64	3000	3010	3060	3290	3520	314	1240	1540	55
17	58	58	64	3000	2930	3040	3210	3520	400	995	1470	57
18	56	792	64	3000	836	3120	3170	3380	476	1160	880	57
19	56	90	64	3000	625	300	3200	3440	1420	1230	1180	1100
20	56	60	64	3000	769	800	2700	3360	1480	1190	1140	1220
21	56	2660	64	200	373	60	600	3320	1500	1300	1360	1180
22	56	3000	1840	60	508	60	60	3460	1510	1270	1140	88
23	56	2180	3160	60	1150	60	2910	3330	1880	1190	823	51
24	56	60	3600	60	1600	60	3210	3660	1480	1300	810	1290
25	56	60	3380	60	955	60	3440	3660	1570	1540	74	1560
26	56	60	1810	60	1000	60	3340	3260	1540	1320	59	102
27	58	60	1780	61	2040	60	3320	3490	2680	1220	925	46
28	58	3080	2920	59	100	60	3200	2900	2710	1280	980	46
29	58	3140	3030	59	60	60	3540	3220	2700	1240	1240	2600
30	57	3120	3090	2540	---	300	3480	1440	2720	1260	517	1090
31	57	---	3280	1050	---	3130	---	3440	---	1210	68	---
TOTAL	16047	22484	41541	63409	25639	50520	86760	101350	60438	42365	33476	20111
MEAN	518	749	1340	2045	884	1630	2892	3269	2015	1367	1080	670
MAX	2570	3140	3600	3280	3010	3200	3540	3660	3620	1800	1680	2600
MIN	54	57	64	59	56	60	60	1440	64	995	59	46

CAL YR 1983	TOTAL	492068	MEAN	1348	MAX	4130	MIN	52
WTR YR 1984	TOTAL	564140	MEAN	1541	MAX	3660	MIN	46

06919020 SAC RIVER AT HIGHWAY J BELOW STOCKTON, MO

LOCATION.--Lat 37°44'11", long 93°46'26", NW¼ sec. 3, T.34 N., R.26 W., Cedar County, Hydrologic Unit 10290106, on right bank 2,000 ft upstream from bridge on State Highway J, 4.5 mi downstream from Bear Creek, 6.3 mi downstream from Stockton Lake, 3 mi north of Stockton and at mile 44.9.

DRAINAGE AREA.--1,292 mi², approximately.

PERIOD OF RECORD.--October 1973 to current year. Occasional discharge measurements in water year 1973.

GAGE.--Water-stage recorder. Datum of gage is 750.19 ft National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. Several observations of water temperature and specific conductance were made during the year. Regulated by Stockton Lake.

AVERAGE DISCHARGE.--11 years, 1,073 ft³/s, 777,400 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum observed discharge, 7,720 ft³/s Nov. 11, 1972, gage height, 21.20 ft; minimum, 24 ft³/s Mar. 25, 26, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 4,410 ft³/s Mar. 19; minimum daily, 48 ft³/s Sept. 28.

DISCHARGE (CUBIC FEET/SECOND) WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	186	96	3060	3110	1990	480	2800	3540	1500	2030	1310	60
2	78	95	3300	2900	169	1970	3450	3520	100	1410	1950	55
3	1470	107	3200	2700	158	917	3190	3420	1000	1800	1670	54
4	1680	793	449	2330	151	3620	3560	2780	3200	1700	1610	52
5	1940	331	314	2460	136	3210	3250	3150	3000	1600	1470	52
6	2500	228	264	2350	1070	3200	3300	3100	2500	1680	1660	765
7	2390	190	230	2890	549	3140	3320	3190	2750	1870	1640	1130
8	1560	159	207	3200	125	3270	3690	2400	3590	1890	1540	684
9	750	774	198	3200	120	3210	3460	3210	1300	1480	1700	233
10	2440	2310	324	3300	124	3140	3360	3280	2460	2060	308	889
11	578	496	318	3130	125	2990	3250	3280	3650	1480	620	1330
12	59	182	264	3140	125	3000	3530	3500	3020	1330	1330	1620
13	60	165	258	3000	727	3180	3280	3030	3410	1490	1420	1460
14	58	154	218	3000	2900	2950	3290	3460	3480	1790	1560	1820
15	58	144	192	2950	2730	3030	3280	3310	2450	1760	1680	302
16	58	132	180	3130	2900	3100	3330	3390	406	1460	1590	53
17	76	123	169	3060	2850	3290	3210	3410	448	1150	1570	53
18	70	789	178	3080	1110	3670	3130	3290	601	1270	1240	52
19	73	451	180	3170	742	4410	3190	3370	1440	1390	1260	1080
20	417	285	171	2960	839	1780	3500	3230	1620	1360	1300	1360
21	1430	2500	169	237	473	663	4260	3220	1750	1440	1430	1230
22	389	1290	1760	175	713	481	969	3390	1610	1420	1430	475
23	241	469	2950	993	944	402	2840	3170	2060	1340	1000	49
24	191	329	3500	164	1320	465	3290	3580	1640	1450	954	1150
25	159	411	3360	169	1060	655	3500	3700	1740	1620	291	1730
26	139	1080	2150	168	1190	481	3380	3080	1720	1530	70	594
27	127	3260	1780	164	2350	455	3340	3370	2650	1340	978	54
28	116	3230	2880	162	672	848	3190	2870	2700	1380	1130	48
29	108	3140	2910	161	505	707	3560	3060	2690	1370	1390	2300
30	103	3090	2980	2480	---	684	3470	1510	2720	1380	763	1460
31	100	---	3170	941	---	3120	---	2800	---	1340	178	---
TOTAL	19604	26803	41283	64724	28867	66518	98169	98610	63205	47610	38142	22194
MEAN	632	893	1332	2088	995	2146	3272	3181	2107	1536	1230	740
MAX	2500	3260	3500	3300	2900	4410	4260	3700	3650	2060	1950	2300
MIN	58	95	169	161	120	402	969	1510	100	1150	70	48

CAL YR 1983	TOTAL	517043	MEAN	1417	MAX	4100	MIN	57
WTR YR 1984	TOTAL	615729	MEAN	1682	MAX	4410	MIN	48

06919500 CEDAR CREEK NEAR PLEASANT VIEW, MO

LOCATION.--Lat 37°50'03", long 93°52'31", in NE¼ sec.2, T.35 N., R.27 W., Cedar County, Hydrologic Unit 10290106, on downstream side of right pier of bridge on State Highway 39, 1.5 mi north of Pleasant View, 1.8 mi downstream from Alder Creek, and 5.8 mi upstream from mouth.

DRAINAGE AREA--420 mi², approximately.

PERIOD OF RECORD.--April 1923 to September 1926, October 1948 to current year.

REVISED RECORDS.--WSP 1146: 1923-26, drainage area. WSP 1176: 1924(M).

GAGE.--Water-stage recorder. Datum of gage is 739.46 ft National Geodetic Vertical Datum of 1929. Apr. 22, 1923, to Sept. 30, 1926, and Oct. 1, 1948, to May 10, 1950 nonrecording gage at site 50 ft downstream at same datum. May 11, 1950 to Dec. 17, 1952, nonrecording gage, at present site and datum.

REMARKS.--Records good. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--39 years, 300 ft³/s, 9.70 in/yr, 217,400 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 33,900 ft³/s July 17, 1958, gage height, 27.35 ft; no flow at times many years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage know, 27.7 ft July 20, 1909, from floodmark.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 3,500 ft³/s and maximum (*):

Date	Time	Discharge (ft³/s)	Gage height (ft)
Oct. 21	2100	5,410	17.02
Nov. 23	2230	4,510	15.52
Nov. 27	2345	3,690	13.98
Dec. 4	0915	3,720	14.04
Mar. 5	0300	8,100	20.51
Mar. 19	1800	*11,500	22.74
Apr. 3	1315	3,700	14.00
Apr. 8	1900	5,680	17.47
Apr. 22	0115	6,820	19.02

Minimum daily discharge, 0.18 ft³/s Aug. 21.

DISCHARGE (CUBIC FEET/SECOND) WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.58	66	500	127	171	1250	640	255	72	22	1.7	.89
2	.57	61	415	128	152	2070	856	230	58	18	1.4	.83
3	.53	77	820	128	145	2500	3180	219	49	17	1.2	1.2
4	.55	766	3250	143	141	5110	2320	211	264	16	1.2	1.1
5	.54	2130	1560	242	133	6800	1770	200	171	14	1.1	.90
6	.49	706	752	544	117	2130	965	257	101	15	1.0	.75
7	.48	291	553	679	103	882	933	375	80	16	.90	.67
8	.58	219	441	563	94	688	4710	431	63	74	.81	34
9	.60	181	356	508	95	556	4610	343	52	305	1.0	115
10	.54	178	394	1260	113	481	1990	260	164	102	1.3	35
11	.74	213	1700	948	140	416	1170	214	228	55	1.2	24
12	1.2	238	2690	453	166	477	1740	181	171	34	1.0	18
13	1.2	197	1050	337	156	732	1800	152	100	36	.77	9.6
14	1.4	163	800	264	142	590	924	131	66	39	.62	5.5
15	1.6	139	642	239	125	495	714	116	49	22	.52	3.6
16	1.7	121	465	221	115	563	617	102	43	16	.43	2.2
17	5.7	108	363	198	110	4110	542	90	32	13	.30	1.7
18	664	96	310	170	119	4090	474	79	26	11	.22	1.3
19	243	159	262	134	153	10400	415	72	23	8.8	.22	1.1
20	171	738	258	137	184	8320	430	120	153	8.2	.19	.96
21	4370	539	260	113	157	3470	4400	120	165	9.8	.18	.83
22	4360	306	228	115	138	1170	5780	89	135	8.2	.34	.79
23	1080	2670	211	118	130	813	1900	70	225	6.7	.35	.83
24	361	3400	186	122	122	896	1030	63	440	5.2	.97	.83
25	250	1020	161	133	113	1120	738	58	163	4.3	1.2	.89
26	191	593	154	159	162	1050	567	59	90	3.7	.97	.78
27	149	1980	156	196	1580	1340	463	64	61	3.1	1.4	.72
28	123	3220	160	219	2140	1490	363	142	47	2.5	2.1	.76
29	103	1240	151	219	1540	2570	308	160	35	2.3	1.7	.76
30	86	659	134	216	---	1170	285	128	27	2.1	1.3	.76
31	74	---	127	199	---	744	---	94	---	1.9	1.0	---
TOTAL	12244.00	22474	19509	9232	8756	68493	46634	5085	3353	891.8	28.59	266.16
MEAN	395	749	629	298	302	2209	1554	164	112	28.8	.92	8.87
MAX	4370	3400	3250	1260	2140	10400	5780	431	440	305	2.1	115
MIN	.48	61	127	113	94	416	285	58	23	1.9	.18	.67

CAL YR 1983 TOTAL 164222.34 MEAN 450 MAX 8190 MIN .44
WTR YR 1984 TOTAL 196966.55 MEAN 538 MAX 10400 MIN .18

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06919900 SAC RIVER NEAR CAPLINGER MILLS, MO

LOCATION.--Lat 37°52'12", long 93°48'11", in NW¼NE¼SW¼ sec. 21, T.35 N., R.26 W., St. Clair County, Hydrologic Unit 10290106, on right downstream wingwall of bridge on State Highway W, 1.5 mi downstream from Cedar Creek and 5 mi north of Caplinger Mills.

DRAINAGE AREA.--1,810 mi².

PERIOD OF RECORD.--October 1974 to current year.

GAGE.--Water-stage recorder. Datum of gage is 720.82 ft National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. Several observations of water temperature and specific conductance were made during the year. Some regulation from Stockton Lake.

AVERAGE DISCHARGE.--10 years, 1,342 ft³/s, 972,300 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 17,900 ft³/s Nov. 4, 1974, gage height, 25.99 ft from floodmark; minimum, 48 ft³/s Sept. 13, 1976.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 15,000 ft³/s March 19; minimum daily, 49 ft³/s Sept. 5.

DISCHARGE (CUBIC FEET/SECOND) WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	964	195	3720	3390	1530	2050	4190	3890	1970	2780	1370	81
2	94	192	3610	3250	502	3000	3690	3860	309	924	2150	59
3	342	194	4010	3280	309	5000	6720	3800	978	2010	1900	55
4	1650	1450	6530	2760	299	12000	5960	3430	3200	1750	1580	52
5	2120	2590	4230	2670	281	6000	5210	3320	2910	1780	1240	49
6	2430	1330	1400	3140	1040	4500	4520	3490	2730	1770	1730	117
7	2590	532	1000	3150	767	4000	4230	3700	3070	1790	1700	1100
8	1650	410	796	3890	308	4050	8550	3170	2830	2030	1700	1140
9	1480	373	663	3760	243	3900	8810	3510	2350	2250	1700	832
10	1660	2400	666	4780	269	3350	5930	3680	2560	1930	500	179
11	1860	1530	1970	4410	280	3540	4690	3630	3400	1890	400	1300
12	128	454	3490	3780	300	3660	5270	3840	3430	1450	1000	1620
13	83	395	1750	3520	293	3900	5420	3490	3610	1370	1500	1500
14	80	352	1270	3430	2660	3900	4500	3680	3630	1830	1700	1920
15	77	319	1050	3120	2960	3820	4020	3500	3560	1870	1700	1290
16	76	292	756	3460	2780	3500	4110	3600	776	1860	1700	82
17	104	271	606	3280	3280	7220	3860	3630	575	1390	1700	57
18	614	261	536	3400	2060	3370	3650	3500	688	1300	1500	56
19	397	1260	473	3250	1050	15000	3740	3530	708	1500	1300	135
20	363	1060	465	3350	1090	13200	3760	3550	1800	1500	1300	1500
21	5110	2160	486	1910	751	6070	9120	3490	1920	1450	1350	1480
22	5290	3140	1080	350	745	2210	8700	3580	1890	1600	1740	1460
23	1970	6250	3380	886	833	1560	4740	3440	2210	1510	1190	102
24	610	5060	3610	506	1340	1600	4780	3640	2330	1520	1010	77
25	437	1890	3740	324	1080	2280	4220	3910	1990	1570	1050	1830
26	356	1080	3010	342	1320	2010	4160	3340	1870	1920	94	1690
27	307	2980	1520	367	4460	2270	3980	3630	2800	1520	143	102
28	274	5730	3060	384	3420	2480	3730	3410	2880	1450	1200	64
29	245	4880	3000	388	2470	3920	3970	3260	2880	1500	1280	1190
30	223	4030	3320	1740	---	2280	3800	1830	2890	1490	1250	2500
31	209	---	3350	1910	---	3060	---	3540	---	1440	655	---
TOTAL	33793	53060	68547	78177	38720	143700	152030	108870	68744	51944	40332	23619
MEAN	1090	1769	2211	2522	1335	4635	5068	3512	2291	1676	1301	787
MAX	5290	6250	6530	4780	4460	15000	9120	3910	3630	2780	2150	2500
MIN	76	192	465	324	243	1560	3650	1830	309	924	94	49

CAL YR 1983	TOTAL	722036	MEAN	1978	MAX	10900	MIN	65
WTR YR 1984	TOTAL	861536	MEAN	2354	MAX	15000	MIN	49

06921070 POMME DE TERRE RIVER NEAR POLK, MO

LOCATION.--Lat 37°40'56", long 93°22'12", in NE¼NW¼NW¼ sec.17, T.34 N., R.22 W., Polk County, Hydrologic Unit 10290107, on right bank 150 ft upstream from Jefferson Bridge on State Highway D and 5 mi southwest of Polk.

DRAINAGE AREA.--276 mi².

WATER DISCHARGE RECORDS

PERIOD OF RECORD.--October 1968 to current year.

GAGE.--Water-stage recorder. Datum of gage is 872.61 ft National Geodetic Vertical Datum of 1929.

REMARKS.--Water discharge records fair.

AVERAGE DISCHARGE.--16 years, 252 ft^3/s, 12.40 in/yr, 182,600 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 20,300 ft^3/s Nov. 1, 1972, gage height, 21.88 ft; minimum, 0.3 ft^3/s Aug. 11, 1980.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 5,500 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)
Oct. 20	1530	11,600	15.17
Mar. 4	0745	11,100	14.87
Mar. 18	2200	*14,900	17.33
Apr. 21	0530	14,600	17.12

Minimum discharge, 3.4 ft^3/s Sept. 7.

DISCHARGE (CUBIC FEET/SECOND) WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.6	98	239	119	148	815	549	214	66	39	11	4.6
2	7.5	96	226	119	144	1210	972	197	59	36	11	4.6
3	6.6	604	672	114	143	1310	2290	187	53	33	10	4.6
4	10	1780	1390	120	141	7940	1090	172	51	32	9.5	4.8
5	48	625	731	207	138	1700	804	160	47	163	9.9	4.8
6	28	398	541	613	123	1000	609	263	51	60	10	4.5
7	20	297	431	545	112	749	546	234	49	853	11	3.9
8	15	241	359	476	111	669	1720	242	45	334	12	150
9	13	212	310	936	111	496	2620	191	40	130	20	788
10	11	270	272	1440	124	439	1130	164	52	76	14	64
11	12	290	667	669	125	384	825	143	61	66	11	31
12	32	259	665	473	578	469	1140	127	55	59	8.8	22
13	47	228	483	374	578	570	780	114	49	58	8.5	17
14	26	203	522	296	369	413	560	101	37	49	8.0	14
15	21	180	415	247	282	349	493	92	36	39	6.9	12
16	18	155	331	229	237	340	433	86	39	33	6.6	10
17	807	139	285	201	220	978	374	80	33	29	6.3	10
18	296	128	258	171	205	4410	318	73	31	26	6.2	10
19	146	829	199	130	190	8060	278	70	242	23	7.5	9.4
20	7170	1160	215	147	166	1530	480	118	1370	22	8.4	8.5
21	3160	599	216	147	152	1010	9100	112	590	20	7.2	8.3
22	964	425	178	144	142	755	1540	97	317	19	7.5	10
23	574	1840	173	142	133	601	1020	126	202	18	8.0	13
24	414	1120	150	143	122	802	762	83	113	17	8.0	13
25	309	621	148	179	112	1100	580	73	88	15	7.8	12
26	243	446	145	184	745	779	457	78	70	15	7.1	12
27	205	465	150	182	1680	910	384	128	62	14	6.2	13
28	174	453	153	174	1080	1900	311	184	54	13	5.8	14
29	145	352	137	172	852	1240	273	158	49	13	5.5	15
30	125	280	118	164	---	807	246	99	44	12	5.1	15
31	112	---	121	153	---	625	---	78	---	11	4.9	---
TOTAL	15167.7	14793	10900	9410	9266	44300	32684	4244	4055	2327	269.7	1303.0
MEAN	489	493	352	304	320	1429	1089	137	135	75.1	8.70	43.4
MAX	7170	1840	1390	1440	1680	8060	9100	263	1370	853	20	788
MIN	6.6	96	118	114	111	340	246	70	31	11	4.9	3.9

CAL YR 1983	TOTAL 117748.4	MEAN	323	MAX	12000	MIN	2.9
WTR YR 1984	TOTAL 148719 4	MEAN	406	MAX	9100	MIN	3.9

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06921070 POMME DE TERRE RIVER NEAR POLK, MO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--November 1983 to current year.

PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: June 1970 to June 1974.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: Maximum, 32.5°C July 2, August 2-5, 1970; minimum 0.0°C February 4, 1972.

WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS) (00061)	SPE-CIFIC CON-DUCT-ANCE (UMHOS) (00095)	PH (STAND-ARD UNITS) (00400)	TEMPER-ATURE (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L) (00340)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	HARD-NESS (MG/L AS CACO3) (00900)
NOV										
10...	1230	275	368	8.0	9.5	9.0	79	20	280	202
DEC										
06...	1200	536	309	7.9	7.0	11.8	96	15	760	--
JAN										
03...	1230	114	392	7.9	1.5	13.6	96	--	56	210
FEB										
06...	1145	104	390	8.3	1.5	15.0	106	12	4	--
MAR										
05...	1245	1540	239	7.7	7.0	11.2	92	34	1600	--
APR										
02...	1130	481	326	8.0	9.5	10.4	91	16	60	160
MAY										
08...	1110	238	340	8.1	14.0	10.6	102	12	920	--
JUN										
05...	1030	47	395	7.9	21.5	7.2	82	34	86	--
JUL										
10...	1230	74	328	8.0	26.0	6.4	78	37	1000	160
AUG										
06...	1215	7.5	457	8.1	26.5	5.9	73	16	39	--
SEP										
11...	1115	31	195	7.3	23.5	4.0	47	70	4900	--

DATE	HARD-NESS, NONCAR-BONATE (MG/L CACO3) (00902)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ALKA-LINITY FIELD (MG/L AS CACO3) (00410)	CARBON DIOXIDE DIS-SOLVED (MG/L AS CO2) (00405)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)
NOV										
10...	15	43	23	4.0	3.1	187	3.6	13	9.6	<.10
DEC										
06...	--	--	--	--	--	142	3.4	--	--	--
JAN										
03...	22	44	24	4.5	1.7	187	4.5	14	11	.10
FEB										
06...	--	--	--	--	--	182	1.7	--	--	--
MAR										
05...	--	--	--	--	--	88	3.4	--	--	--
APR										
02...	18	35	18	3.5	1.8	144	2.3	12	7.6	<.10
MAY										
08...	--	--	--	--	--	162	2.5	--	--	--
JUN										
05...	--	--	--	--	--	194	4.7	--	--	--
JUL										
10...	22	37	17	3.1	4.8	141	2.7	11	6.6	.10
AUG										
06...	--	--	--	--	--	212	3.2	--	--	--
SEP										
11...	--	--	--	--	--	78	7.6	--	--	--

06921070 POMME DE TERRE RIVER NEAR POLK, MO--Continued

DATE	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L) (00530)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	PHOS-PHORUS, TOTAL (MG/L AS P) (00665)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD) (01027)	CADMIUM DIS-SOLVED (UG/L AS CD) (01025)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)
NOV 10...	237	13	.90	.040	.050	<1	<1	6	2	340
DEC 06...	--	6	1.1	<.010	.050	--	--	--	--	--
JAN 03...	250	2	1.0	<.010	.010	2	<1	6	3	130
FEB 06...	--	<2	.60	<.010	<.010	--	--	--	--	--
MAR 05...	--	72	1.0	.060	.110	--	--	--	--	--
APR 02...	176	11	.90	.070	.020	<1	1	8	3	140
MAY 08...	--	6	.40	.020	.020	--	--	--	--	--
JUN 05...	--	16	<.10	.020	.030	--	--	--	--	--
JUL 10...	179	24	.80	.050	.140	<1	<1	5	2	700
AUG 06...	--	8	<.10	<.010	.040	--	--	--	--	--
SEP 11...	--	21	.70	.120	.320	--	--	--	--	--

DATE	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB) (01051)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG) (71900)	MERCURY DIS-SOLVED (UG/L AS HG) (71890)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN) (01092)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)
NOV 10...	28	1	1	50	22	.1	.1	20	7
DEC 06...	--	--	--	--	--	--	--	--	--
JAN 03...	17	2	1	30	18	<.1	<.1	20	15
FEB 06...	--	--	--	--	--	--	--	--	--
MAR 05...	--	--	--	--	--	--	--	--	--
APR 02...	11	<1	<1	10	14	.1	<.1	10	13
MAY 08...	--	--	--	--	--	--	--	--	--
JUN 05...	--	--	--	--	--	--	--	--	--
JUL 10...	17	2	<1	80	25	.1	<.1	10	18
AUG 06...	--	--	--	--	--	--	--	--	--
SEP 11...	--	--	--	--	--	--	--	--	--

06921200 LINDLEY CREEK NEAR POLK, MO

LOCATION.--Lat 37°45'02", long 93°15'58", in NE¼SE¼ sec.29, T.35 N., R.21 W., Polk County, Hydrologic Unit 10290107, on left bank 30 ft upstream from county highway bridge, 0.5 mi downstream from Panther Creek, 2.5 mi northeast of Polk, and 11 mi upstream from Ingalls Creek.

DRAINAGE AREA.--112 mi^2.

PERIOD OF RECORD.--April 1957 to current year.

GAGE.--Water-stage recorder. Datum of gage is 884.08 ft National Geodetic Vertical Datum of 1929. Prior to Sept. 25, 1957, nonrecording gage at site 30 ft downstream at same datum.

REMARKS.--Records good. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--27 years, 91.2 ft^3/s, 11.05 in/yr, 66,100 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 28,000 ft^3/s May 5, 1961, gage height, 23.60 ft, from rating extended above 12,000 ft^3/s on basis of slope-conveyance study; no flow on many days in most years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in September 1914, reached a stage of about 25.2 ft.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 2,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)
Oct. 20	unknown	unknown	unknown
Mar. 4	0915	10,600	17.80
Mar. 19	0030	9,830	17.50
Apr. 3	0030	2,360	10.74
Apr. 9	0215	3,330	12.52
Apr. 21	0615	*10,800	17.89
Sept. 8	2245	3,920	13.30

No flow Oct. 1-3.

DISCHARGE (CUBIC FEET/SECOND) WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	33	93	50	67	408	185	78	24	2.2	.08	.24
2	.00	71	98	50	65	664	645	74	19	1.7	.06	.10
3	.00	546	398	51	66	661	883	70	16	1.5	.05	.05
4	4.0	1000	632	57	65	4950	419	62	16	25	.04	.04
5	35	400	293	160	61	561	290	57	14	89	.03	.03
6	20	200	200	485	51	328	211	118	12	16	.05	.02
7	10	170	160	295	49	245	227	109	12	150	.03	.02
8	6.0	150	130	263	48	209	1190	103	10	83	.02	359
9	4.0	140	110	836	55	170	1350	71	9.1	24	65	1120
10	2.0	170	100	560	84	157	402	58	17	13	21	74
11	4.0	200	400	222	81	136	286	48	45	32	5.3	31
12	20	140	300	161	142	245	661	42	21	42	1.7	17
13	30	110	250	132	116	299	296	37	13	16	.71	9.6
14	20	90	300	107	90	192	207	33	9.4	10	.44	6.2
15	10	80	200	90	76	168	198	29	7.4	6.3	.37	4.6
16	5.0	65	150	87	70	171	171	26	6.1	4.5	.28	3.8
17	300	55	130	75	66	784	142	23	5.6	3.5	.20	3.0
18	100	50	120	67	80	2450	119	21	4.6	2.8	.13	2.3
19	50	130	110	66	74	3480	104	20	5.0	2.1	.38	1.9
20	4000	600	130	82	63	570	252	67	69	1.5	.47	1.9
21	1500	300	90	61	59	357	4830	49	35	1.2	.57	2.3
22	500	200	70	51	56	262	721	30	20	.91	1.8	5.3
23	200	1000	55	55	52	209	456	42	14	.80	1.1	5.9
24	100	500	45	63	49	443	293	29	18	.65	.73	5.3
25	80	220	40	98	44	594	215	22	16	.65	.65	3.4
26	70	240	35	91	543	332	167	32	10	.51	.51	2.2
27	60	280	80	88	808	362	139	52	7.4	.41	.51	1.9
28	50	200	60	82	532	858	112	109	5.4	.34	.56	2.3
29	45	125	55	84	413	405	102	57	4.1	.30	.56	2.5
30	40	113	50	77	---	257	91	38	2.9	.24	.41	2.3
31	34	---	55	69	---	206	---	29	---	.11	.30	---
TOTAL	7299.00	7578	4939	4715	4025	21133	15364	1635	468.0	532.22	104.02	1668.20
MEAN	235	253	159	152	139	682	512	52.7	15.6	17.2	3.36	55.6
MAX	4000	1000	632	836	808	4950	4830	118	69	150	65	1120
MIN	.00	33	35	50	44	136	91	20	2.9	.11	.02	.02

CAL YR 1983	TOTAL	50033.67	MEAN	137	MAX	6270	MIN	.00
WTR YR 1984	TOTAL	69460.44	MEAN	190	MAX	4950	MIN	.00

06921325 POMME DE TERRE LAKE NEAR HERMITAGE, MO

LOCATION.--Lat 37°54'06", long 93°19'05", in NE¼ sec.2, T.36 N., R.22 W., Hickory County, Hydrologic Unit 10290107, in intake tower at dam on Pomme de Terre River, and 3 mi southwest of Hermitage.

DRAINAGE AREA.--611 mi².

PERIOD OF RECORD.--June 1960 to current year.

GAGE.--Water-stage recorder. Non-recording gage prior to Nov. 9, 1961. Datum of gage is at National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers).

REMARKS.--Lake is formed by earth fill embankment with a concrete gravity section-type dam. Closure operation began on June 28, 1960; conservation pool level reached June 15, 1963. Capacity nominal top of flood control pool, 648,700 acre-ft at elevation, 874 ft, crest of spillway, of which 407,200 acre-ft between elevations 839 ft and 874 ft is used for flood control, and 228,700 acre-ft between elevation 783 ft and 839 ft is used for conservation and 12,840 acre-ft below elevation 783 ft is sediment storage. Lake used for flood control and recreational purposes.

COOPERATION.--Records furnished by Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 481,000 acre-ft Apr. 30, 1973, elevation, 862.35 ft, minimum, since initial filling to conservation pool level, 215,880 acre-ft Mar. 3, 1964, elevation, 835.61 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 342,500 acre-ft Mar. 30, elevation 850.29 ft; minimum daily, 230,900 acre-ft Oct. 16; elevation, 837.62 ft.

Capacity table (elevation, in feet NGVD, and contents, in acre-ft)

837	226,200	847	310,400
840	249,500	850	339,600
843	274,500	853	370,700

RESERVOIR STORAGE (AC-FT), WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	232100	262700	252600	243400	242600	264600	335000	302700	244900	246700	240600	236800
2	232100	261400	250600	243300	242500	266000	330800	297400	244700	246500	240400	236400
3	231700	259900	246300	243400	242500	266300	335800	292300	244500	246300	240400	236300
4	231600	271800	251500	243400	242500	288200	336600	287000	244500	246300	240200	236000
5	231800	277000	252400	243800	242300	310200	334300	281400	244100	246200	240100	235800
6	231700	277600	251900	245500	242200	309600	330800	277100	244000	246400	239900	235500
7	231600	276400	250500	248500	241900	306900	326800	272300	243900	246500	239700	235200
8	231500	273900	248700	250700	241700	303300	326600	268300	243500	250200	239400	234900
9	231500	270700	246700	252900	241900	299200	334500	263400	243400	250700	240000	240000
10	231400	267800	245500	257900	242500	294800	336600	258200	243400	249900	240000	241900
11	231200	265000	245300	260100	243000	290200	334500	252800	243400	249500	240000	242200
12	231500	262100	246400	260400	243800	285500	332200	251100	243100	248500	239700	242200
13	231300	259000	246700	260100	245200	282400	331300	250600	243000	247500	239700	242100
14	231300	255600	246700	256000	246500	278600	327900	249900	242700	246500	239400	242000
15	231000	252400	246600	257200	247400	274500	323900	249200	242600	245300	239200	242000
16	230900	248900	245900	257200	248200	270500	319500	248400	242600	244200	239000	241900
17	231500	245400	244900	256000	248700	271000	315100	247700	242600	244100	238800	241500
18	233000	241900	243700	254900	249100	270500	310200	246900	242400	243800	238600	241500
19	233500	242700	242600	253600	248600	300600	305400	246100	242200	243600	238900	241300
20	235300	247000	241300	252000	248200	320300	300400	245800	243000	243300	238700	241100
21	266100	249600	241100	250700	247800	323300	323900	245300	246100	243000	238600	241000
22	275300	249800	241000	249100	247300	324400	337000	244700	247000	242800	238700	241000
23	276000	253100	240500	247500	246700	324500	336800	244000	247500	242600	238600	241000
24	275400	257500	240900	246300	246100	324700	334500	243900	247700	242300	238400	240800
25	274200	257200	241100	244900	245700	328600	330900	243500	247600	242200	238100	240700
26	273000	255800	241500	243700	245500	330600	326900	244000	247600	242000	237900	240700
27	271500	256000	241900	242600	254100	331700	322800	243900	247400	241800	237600	240500
28	269900	257500	242300	242400	260100	334200	317800	244900	247400	241500	237600	240400
29	268100	256300	242800	242600	263700	340800	312800	245200	247300	241300	237300	240200
30	266400	254400	243100	242700	---	342500	308400	245200	247000	241100	237100	240000
31	264600	---	243500	242600	---	338800	---	245100	---	240800	236900	---
WTR YR 1984												
(†)	841.83	840.60	839.25	839.14	841.73	849.93	846.79	839.45	839.69	838.91	838.40	838.81
(‡)	+32400	-10200	-10900	-900	+21100	+75100	-30400	-63300	+1900	-6200	-3900	+3100
MAX	276000	277000	252600	260400	263700	342500	337000	302700	247700	250700	240600	242200
MIN	230900	241900	240500	242400	241700	264600	300400	243500	242200	240800	236900	234900

CAL YR 1983...............(‡) -36500
WTR YR 1984...............(‡) +7800

(†) Elevation, in feet NGVD, at end of month.
(‡) Change in contents, in acre-feet.

06921350 POMME DE TERRE RIVER NEAR HERMITAGE, MO

LOCATION.--Lat 37°54'20", long 93°19'45", in NW¼NW¼ sec.2, T.36 N., R.22 W., Hickory County, Hydrologic Unit 10290107, on right bank 2,000 ft downstream from outlet of Pomme de Terre Lake, 2.5 mi southwest of Hermitage, 4.5 mi upstream from Green Branch, and at mile 43.4.

DRAINAGE AREA.--615 mi^2.

PERIOD OF RECORD.--August 1960 to current year.

GAGE.--Water-stage recorder. Datum of gage is 749.33 ft National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. Several observations of water temperature and specific conductance were made during the year. Flow regulated by Pomme de Terre Lake.

AVERAGE DISCHARGE.--24 years, 474 ft^3/s, 343,400 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,000 ft^3/s May 9, 1961, gage height, 15.02 ft; no flow Sept. 10, 1960, Mar. 9-17, 1971, Nov. 4-6 1977.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 3,030 ft^3/s Mar. 6; minimum daily, 42 ft^3/s Sept. 19, 20, 21, and 24.

DISCHARGE (CUBIC FEET/SECOND) WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	43	1120	1610	94	302	1580	2950	2930	193	82	43	43
2	43	1120	1600	93	304	1580	2960	2950	192	82	43	43
3	44	1120	1610	93	305	1580	2960	2990	193	82	43	43
4	46	1120	1610	93	307	1640	2960	2970	192	82	43	43
5	46	1120	1600	93	310	2160	2950	2960	192	82	43	43
6	46	1120	1600	94	309	3030	2950	2950	191	82	43	43
7	46	1450	1600	94	310	3000	2940	2940	190	90	43	43
8	47	2100	1600	95	207	2990	2950	2930	188	83	43	48
9	47	2090	1200	641	98	2980	2950	2920	185	357	43	43
10	47	2080	1080	1040	98	2960	2950	2910	184	571	43	43
11	48	2070	1080	1040	99	2950	2950	2090	182	574	43	43
12	49	2060	1080	1040	99	2950	2950	514	181	574	43	43
13	51	2050	1080	1040	99	2940	2950	514	179	574	43	43
14	51	2050	1080	1040	99	2930	2940	514	124	574	43	43
15	48	2040	1080	1040	99	2930	2940	514	82	574	43	43
16	44	2040	1080	1040	98	2930	2930	505	81	289	43	43
17	46	2030	1080	1040	311	2940	2920	480	81	82	43	43
18	44	895	1080	1040	490	2720	2920	483	81	84	43	43
19	48	97	1080	1040	491	1200	2910	487	81	85	44	42
20	59	97	700	1040	491	1180	2910	491	82	85	43	42
21	56	485	477	1040	491	1180	2990	491	82	85	43	42
22	702	834	477	1040	491	1180	2980	500	81	85	44	43
23	1150	1270	254	1030	491	1180	2980	323	82	64	43	43
24	1140	1620	95	1030	492	1190	2970	186	82	43	43	42
25	1140	1620	94	1030	491	1190	2960	193	82	43	43	43
26	1130	1620	98	1030	505	1190	2950	191	82	43	43	43
27	1130	1630	99	766	507	884	2950	197	82	43	43	43
28	1120	1620	95	296	529	1110	2940	194	82	43	43	43
29	1120	1620	97	298	1070	1110	2930	192	82	43	43	43
30	1120	1610	98	301	---	2090	2940	190	82	43	43	43
31	1120	---	95	302	---	2960	---	190	---	43	43	---
TOTAL	11871	43798	27509	20993	9993	64434	88430	38889	3872	5666	1335	1291
MEAN	383	1460	887	677	345	2079	2948	1254	129	183	43.1	43.0
MAX	1150	2100	1610	1040	1070	3030	2990	2990	193	574	44	48
MIN	43	97	94	93	98	884	2910	186	81	43	43	42

CAL YR 1983	TOTAL	251679	MEAN	690	MAX	3060	MIN	43
WTR YR 1984	TOTAL	318081	MEAN	869	MAX	3030	MIN	42

06921590 SOUTH GRAND RIVER AT ARCHIE, MO

LOCATION.--Lat 38°28'44", long 94°20'03", in NW¼NW¼SE¼ sec.34, T.43 N., R.31 W., Cass County, Hydrologic Unit 10290108, on right bank 25 ft downstream from bridge on State Highway B, 0.9 mi east of Archie, 1.4 mi upstream from Mormon Fork, and 7.4 mi downstream from South Fork.

DRAINAGE AREA.--356 mi².

PERIOD OF RECORD.--October 1969 to current year.

REVISED RECORDS.--WDR MO-80-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 768.99 ft National Geodetic Vertical Datum of 1929.

REMARKS.--Records poor. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--15 years, 260 ft³/s, 13.78 in/yr, 188,400 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 21,600 ft³/s June 10, 1984, gage height, 18.80 ft; maximum gage height, 19.4 ft Oct. 13, 1969; no flow at times several years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Floods of Nov. 13, 1928, and Sept. 15, 1961, reached stages of 27.6 ft and 28.8 ft, respectively, at point 1 mi northeast of gage, from information by local resident.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 5,500 ft³/s and maximum (*):

Date	Time	Discharge (ft³/s)	Gage height (ft)
Mar. 19	0745	14,000	15.12
Apr. 8	1215	8,650	11.91
Apr. 12	0945	6,520	10.41
June 10	1100	*21,600	18.80
June 21	2100	8,150	11.50

No flow several days.

DISCHARGE (CUBIC FEET/SECOND) WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.44	64	199	50	63	311	220	666	68	33	.86	.00
2	.24	1860	162	52	59	263	1290	633	64	18	.86	.00
3	.31	747	369	55	57	209	3230	1130	48	29	.86	.00
4	.47	1090	900	60	54	759	788	576	26	397	1.7	.00
5	.72	228	408	63	47	555	500	419	25	388	1.8	.00
6	1.1	115	291	70	40	283	347	306	28	136	2.0	.12
7	.67	78	200	80	36	210	882	214	28	86	2.0	.00
8	.13	46	158	90	32	182	7210	204	1530	75	1.5	.00
9	.12	53	133	90	33	152	2160	159	12800	60	1.5	.00
10	.18	100	118	90	48	134	744	104	19200	58	1.3	1.3
11	1.4	111	219	88	61	133	529	86	2990	1360	1.1	2.3
12	4.6	82	343	86	152	131	5010	82	682	396	.60	1.9
13	5.3	64	208	84	174	152	1240	80	334	144	.36	1.8
14	2.6	53	153	75	113	304	493	79	406	98	.00	5.6
15	1.8	43	111	60	89	354	383	54	310	62	.00	42
16	1.8	31	123	58	85	472	325	54	181	24	.00	13
17	1.8	26	84	57	98	2470	277	82	130	11	.00	6.7
18	1.2	25	66	56	150	2210	240	86	84	5.9	.00	3.5
19	19	26	60	50	250	11600	218	48	60	3.6	.00	2.9
20	78	26	55	50	161	3440	232	142	56	2.3	.00	2.4
21	340	26	50	52	113	1960	3410	136	3520	3.6	.00	2.0
22	90	55	45	54	97	838	1560	73	3900	3.2	.00	1.9
23	34	1970	45	54	84	507	1040	68	507	2.9	2.3	1.9
24	14	661	45	56	74	504	558	66	168	2.5	.60	1.6
25	6.9	266	46	58	66	611	433	52	56	2.0	.60	1.7
26	4.3	173	47	60	125	675	446	40	73	2.9	.60	1.7
27	3.3	2730	48	68	914	1120	1430	16	117	2.5	.60	1.9
28	2.4	1970	47	73	1010	567	376	246	94	1.7	.00	2.1
29	2.0	452	46	77	413	402	1590	407	60	.60	.00	1.9
30	2.4	270	45	87	---	303	3390	119	46	1.1	.36	1.8
31	2.4	---	46	76	---	248	---	114	---	.86	.60	---
TOTAL	623.58	13441	4870	2079	4698	32059	40551	6541	47591	3410.66	22.10	102.02
MEAN	20.1	448	157	67.1	162	1034	1352	211	1586	110	.71	3.40
MAX	340	2730	900	90	1010	11600	7210	1130	19200	1360	2.3	42
MIN	.12	25	45	50	32	131	218	16	25	.60	.00	.00

CAL YR 1983 TOTAL 116288.58 MEAN 319 MAX 10900 MIN .00
WTR YR 1984 TOTAL 155988.36 MEAN 426 MAX 19200 MIN .00

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06921600 SOUTH GRAND RIVER AT URICH, MO

WATER-QUALITY RECORDS

LOCATION.--Lat 38°27'08", long 94°00'13", in SE¼NW¼ sec.10, T.42 N., R.28 W., Henry County, Hydrologic Unit 10290108, at bridge on County Highway K, 0.5 mi south of Urich, 1.0 mi upstream from White Oak Creek, and 1.7 mi downstream from Knob Creek.

DRAINAGE AREA.--670 mi².

PERIOD OF RECORD.--October 1983 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	TIME	SPECIFIC CONDUCTANCE (UMHOS) (00095)	PH (STANDARD UNITS) (00400)	TEMPERATURE (DEG C) (00010)	OXYGEN, DISSOLVED (MG/L) (00300)	OXYGEN, DISSOLVED (PERCENT SATURATION) (00301)	OXYGEN DEMAND, CHEMICAL (HIGH LEVEL) (MG/L) (00340)	COLIFORM, FECAL, 0.7 UM-MF (COLS./100 ML) (31625)	HARDNESS (MG/L AS CACO3) (00900)	HARDNESS, NONCARBONATE (MG/L CACO3) (00902)
OCT										
20...	0845	348	7.8	15.5	6.8	68	24	200	--	--
NOV										
07...	1515	264	7.5	14.5	6.8	66	43	1200	120	29
DEC										
09...	0900	378	7.9	2.0	12.8	91	25	2600	--	--
JAN										
06...	0900	600	7.6	1.0	13.2	92	--	230	260	77
FEB										
09...	0900	419	8.0	.5	14.4	99	15	12	--	--
MAR										
08...	0845	386	7.9	5.0	12.0	92	30	1700	--	-
APR										
05...	0900	279	7.7	8.5	10.6	90	35	1500	120	28
MAY										
11...	1110	444	8.1	17.0	9.5	98	17	64	--	--
JUN										
08...	1000	390	8.3	24.0	6.4	76	48	150	--	--
JUL										
13...	1145	206	7.3	26.0	4.4	53	67	820	95	22
AUG										
09...	1130	339	8.5	28.5	5.6	71	56	4	--	--
SEP										
14...	1315	325	7.9	24.5	6.8	80	50	520	--	--

DATE	CALCIUM DISSOLVED (MG/L AS CA) (00915)	MAGNESIUM, DISSOLVED (MG/L AS MG) (00925)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	POTASSIUM, DISSOLVED (MG/L AS K) (00935)	ALKALINITY FIELD (MG/L AS CACO3) (00410)	CARBON DIOXIDE DISSOLVED (MG/L AS CO2) (00405)	SULFATE DISSOLVED (MG/L AS SO4) (00945)	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)	FLUORIDE, DISSOLVED (MG/L AS F) (00950)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L) (70300)
OCT										
20...	--	--	--	--	142	4.3	--	--	--	--
NOV										
07...	39	5.2	6.4	4.9	90	5.5	41	6.0	.30	190
DEC										
09...	--	--	--	--	121	2.9	--	--	--	--
JAN										
06...	87	9.9	26	3.1	181	8.8	64	35	.20	357
FEB										
09...	--	--	--	--	129	2.5	--	--	--	--
MAR										
08...	--	--	--	--	123	3.0	--	--	--	--
APR										
05...	40	5.4	7.1	3.1	94	3.6	33	6.8	.20	180
MAY										
11...	--	--	--	--	173	2.6	--	--	--	--
JUN										
08...	--	--	--	--	144	1.4	--	--	--	--
JUL										
13...	32	3.6	<10	3.9	73	7.1	16	7.6	.30	123
AUG										
09...	--	--	--	--	153	.9	--	--	--	--
SEP										
14...	--	--	--	--	139	3.4	--	--	--	--

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06921600 SOUTH GRAND RIVER NEAR URICH, MO--Continued

DATE	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L) (00530)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	PHOS-PHORUS, TOTAL (MG/L AS P) (00665)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD) (01027)	CADMIUM DIS-SOLVED (UG/L AS CD) (01025)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)
OCT									
20...	54	.20	.040	.050	--	--	--	--	--
NOV									
07...	85	1.7	.120	.240	<1	1	13	3	4700
DEC									
09...	19	2.7	.100	.130	--	--	--	--	--
JAN									
06...	<1	2.5	.250	.140	4	<1	6	2	380
FEB									
09...	<2	1.6	.160	.130	--	--	--	--	--
MAR									
08...	80	2.0	.180	.150	--	--	--	--	--
APR									
05...	133	1.6	.220	.190	<1	<1	15	5	5300
MAY									
11...	36	1.2	.020	.010	--	--	--	--	--
JUN									
08...	43	1.1	.030	.100	--	--	--	--	--
JUL									
13...	414	.80	.090	.300	<1	<1	22	2	19000
AUG									
09...	17	<.10	.010	.100	--	--	--	--	--
SEP									
14...	33	<.10	<.010	.140	--	--	--	--	--

DATE	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB) (01051)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG) (71900)	MERCURY DIS-SOLVED (UG/L AS HG) (71890)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN) (01092)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)
OCT									
20...	--	--	--	--	--	--	--	--	--
NOV									
07...	27	5	1	180	36	.1	.2	90	32
DEC									
09...	--	--	--	--	--	--	--	--	--
JAN									
06...	28	3	<1	140	120	<.1	<.1	20	24
FEB									
09...	--	--	--	--	--	--	--	--	--
MAR									
08...	--	--	--	--	--	--	--	--	--
APR									
05...	23	<1	<1	140	31	.1	<.1	30	30
MAY									
11...	--	--	--	--	--	--	--	--	--
JUN									
08...	--	--	--	--	--	--	--	--	--
JUL									
13...	13	8	1	290	5	.2	<.1	90	58
AUG									
09...	--	--	--	--	--	--	--	--	--
SEP									
14...	--	--	--	--	--	--	--	--	--

06922190 WEST FORK TEBO CREEK NEAR LEWIS, MO

WATER-QUALITY RECORDS

LOCATION.--Lat 38°25'16", long 93°39'36", in NW¼NW¼NW¼ sec.23, T.42 N., R.25 W., Henry County, Hydrologic Unit 10290108, at bridge on county road, 2 miles southeast of Lewis.

PERIOD OF RECORD.--November 1983 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS) (00061)	SPECIFIC CONDUCTANCE (UMHOS) (00095)	PH (STANDARD UNITS) (00400)	TEMPERATURE (DEG C) (00010)	OXYGEN, DISSOLVED (MG/L) (00300)	OXYGEN, DISSOLVED (PERCENT SATURATION) (00301)	COLIFORM, FECAL, 0.7 UM-MF (COLS./100 ML) (31625)	HARDNESS (MG/L AS CACO3) (00900)	HARDNESS, NONCARBONATE (MG/L CACO3) (00902)	CALCIUM DISSOLVED (MG/L AS CA) (00915)	MAGNESIUM, DISSOLVED (MG/L AS MG) (00925)
OCT 20...	1100	5.0	1900	7.5	15.0	7.6	75	570	1200	1100	330	86
NOV 07...	1330	2.7	1990	7.8	13.5	8.8	84	210	1000	860	310	59
DEC 09...	1030	3.0	1900	8.0	4.0	12.8	96	230	1100	910	290	88
JAN 06...	1115	3.0	1320	7.6	.5	13.8	95	1100	700	600	190	55
FEB 09...	1100	3.0	1830	7.9	2.0	14.0	101	28	1100	900	290	84
MAR 08...	1100	4.0	1500	7.8	2.5	13.8	99	200	780	640	210	61
APR 05...	1030	28	1340	7.9	10.0	11.6	102	170	710	570	190	56
MAY 11...	1245	20	2070	8.0	17.5	11.7	123	220	1200	980	310	99
JUN 08...	1200	17	1850	7.9	21.5	6.0	68	10000	970	800	260	78
JUL 13...	1315	2.0	2050	7.9	27.5	7.8	98	120	1200	1000	320	96
AUG 09...	1330	.20	2120	8.1	27.5	9.3	117	140	1300	1100	340	100
SEP 14...	1400	1.0	2050	7.8	22.5	6.4	73	260	940	780	220	94

DATE	SODIUM, DISSOLVED (MG/L AS NA) (00930)	POTASSIUM, DISSOLVED (MG/L AS K) (00935)	ALKALINITY FIELD (MG/L AS CACO3) (00410)	SULFATE DISSOLVED (MG/L AS SO4) (00945)	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)	FLUORIDE, DISSOLVED (MG/L AS F) (00950)	SILICA, DISSOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L) (70300)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N) (00625)	PHOSPHORUS, TOTAL (MG/L AS P) (00665)
OCT 20...	54	5.1	93	1100	6.5	.50	8.3	1730	.40	.70	.030
NOV 07...	93	6.7	157	1000	11	.40	8.8	1770	.60	1.3	.030
DEC 09...	61	6.3	181	980	3.7	.30	9.8	1590	1.0	1.1	.020
JAN 06...	38	5.6	106	620	10	.40	7.6	1070	1.2	1.4	.080
FEB 09...	58	5.3	173	940	7.1	.30	6.6	1850	.40	.30	.010
MAR 08...	42	5.5	132	700	11	.30	7.7	1190	1.2	.60	.040
APR 05...	37	4.8	132	580	6.8	.30	8.2	1020	.90	.70	.050
MAY 11...	62	6.3	206	1100	6.6	.30	5.0	1850	<.10	.40	.020
JUN 08...	52	7.7	170	950	6.7	.40	7.3	1560	.50	.90	.270
JUL 13...	60	7.6	176	1100	6.5	.40	8.7	1800	.30	.40	.040
AUG 09...	80	8.3	173	1300	6.7	.50	7.8	1510	<.10	.80	.060
SEP 14...	64	7.9	162	1100	6.5	.40	7.2	1850	.10	.70	.050

06922190 WEST FORK TEBO CREEK NEAR LEWIS, MO--Continued

DATE	TIME	ALUMINUM, TOTAL RECOVERABLE (UG/L AS AL) (01105)	ALUMINUM, RECOV. FM BOTTOM MATERIAL (UG/G) (01108)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD) (01027)	CADMIUM RECOV. FM BOTTOM MATERIAL (UG/G AS CD) (01028)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR) (01034)	CHROMIUM, RECOV. FM BOTTOM MATERIAL (UG/G) (01029)	COPPER, TOTAL RECOVERABLE (UG/L AS CU) (01042)	COPPER, RECOV. FM BOTTOM MATERIAL (UG/G AS CU) (01043)
OCT 20...	1100	200	2600	1	2	10	5	4	11
JAN 06...	1115	590	4800	1	<1	<10	10	7	10
APR 05...	1030	720	4000	2	<1	270	230	11	9
JUL 13...	1315	400	10000	<1	1	10	20	5	18

DATE	IRON, TOTAL RECOVERABLE (UG/L AS FE) (01045)	IRON, RECOV. FM BOTTOM MATERIAL (UG/G AS FE) (01170)	LEAD, TOTAL RECOVERABLE (UG/L AS PB) (01051)	LEAD, RECOV. FM BOTTOM MATERIAL (UG/G AS PB) (01052)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN) (01055)	MANGANESE, RECOV. FM BOTTOM MATERIAL (UG/G) (01053)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN) (01092)	ZINC, RECOV. FM BOTTOM MATERIAL (UG/G AS ZN) (01093)
OCT 20...	370	15000	2	50	2400	3900	140	100
JAN 06...	840	17000	1	30	1100	1800	40	80
APR 05...	780	11000	48	20	1000	650	30	80
JUL 13...	550	20000	<1	40	280	1500	20	90

06922440 HARRY S. TRUMAN DAM AND RESERVOIR AT WARSAW, MO

LOCATION.--Lat 38°15'30", long 93°23'40", in sec.7, T.40 N., R.22 W., Benton County, Hydrologic Unit 10290105, in control room near middle of dam on Osage River, and 1.5 mi northwest of Warsaw and 95 mi southeast of Kansas City, and at mile 175.

DRAINAGE AREA.--11,500 mi².

PERIOD OF RECORD.--October 1981 to current year. Records collected at same site since 1977 and are available from Corps of Engineers.

GAGE.--Water-stage recorder. Datum of gage is at National Geodetic Vertical Datum of 1929.

REMARKS.--Lake is formed by a rolled earthfill type dam. Storage began on July 21, 1977. Spillway is equipped with 4 tainter gates 40 ft wide by 47.3 ft high. Capacity of surcharge pool (elevations 739.6 ft to 751.1 ft), 2,911,000 acre-ft; of flood control pool (elevations 706.0 ft to 739.6 ft, 4,006,000 acre-ft; and of multipurpose pool (elevations 635.0 ft to 706.0), 1,203,000 acre-ft. Lake is used for flood control, hydroelectric power, recreation, fish and wildlife conservation.

COOPERATION.--Records furnished by Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 3,887,000 acre-ft May 6, 1982, elevation 732.50 ft, minimum, 41,710 acre-ft Nov. 14, 1978, elevation, 661.0 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 2,564,000 acre-ft May 4, elevation 722.69 ft; minimum 1,122,000 acre-ft Sept. 29, elevation 704.49 ft.

RESERVOIR STORAGE (AC-FT), WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984
INSTANTANEOUS OBSERVATIONS AT 0800

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1174000	1226000	1395000	1198000	1263000	1283000	2137000	2447000	1213000	1752000	1213000	1217000
2	1176000	1224000	1380000	1208000	1271000	1282000	2120000	2500000	1216000	1701000	1208000	1217000
3	1176000	1238000	1384000	1218000	1274000	1279000	2128000	2549000	1219000	1649000	1203000	1217000
4	1182000	1255000	1394000	1226000	1268000	1321000	2168000	2564000	1213000	1617000	1204000	1217000
5	1184000	1276000	1426000	1236000	1271000	1328000	2202000	2513000	1218000	1564000	1208000	1216000
6	1188000	1296000	1446000	1252000	1257000	1329000	2213000	2451000	1227000	1510000	1207000	1214000
7	1192000	1289000	1461000	1269000	1239000	1320000	2227000	2390000	1225000	1457000	1208000	1210000
8	1197000	1279000	1465000	1289000	1228000	1292000	2297000	2322000	1235000	1399000	1206000	1212000
9	1200000	1271000	1451000	1314000	1216000	1256000	2335000	2244000	1261000	1336000	1208000	1215000
10	1201000	1256000	1434000	1338000	1206000	1283000	2351000	2165000	1303000	1290000	1211000	1216000
11	1210000	1250000	1429000	1346000	1201000	1303000	2344000	2084000	1375000	1282000	1210000	1222000
12	1208000	1240000	1420000	1359000	1200000	1319000	2364000	2013000	1467000	1282000	1210000	1227000
13	1207000	1223000	1413000	1365000	1206000	1336000	2380000	1945000	1540000	1276000	1212000	1229000
14	1206000	1221000	1402000	1372000	1208000	1256000	2390000	1874000	1596000	1284000	1202000	1226000
15	1206000	1204000	1377000	1387000	1202000	1380000	2385000	1799000	1655000	1291000	1203000	1225000
16	1206000	1198000	1346000	1390000	1196000	1372000	2366000	1726000	1710000	1297000	1206000	1226000
17	1206000	1190000	1312000	1381000	1192000	1411000	2327000	1671000	1765000	1303000	1209000	1226000
18	1206000	1191000	1276000	1372000	1210000	1483000	2273000	1614000	1816000	1278000	1211000	1226000
19	1206000	1206000	1234000	1364000	1215000	1651000	2213000	1558000	1862000	1239000	1212000	1221000
20	1204000	1210000	1197000	1352000	1222000	1762000	2152000	1504000	1905000	1199000	1214000	1213000
21	1221000	1213000	1193000	1340000	1231000	1883000	2276000	1455000	1931000	1201000	1216000	1212000
22	1239000	1233000	1181000	1324000	1237000	1956000	2380000	1452000	1930000	1206000	1226000	1215000
23	1249000	1276000	1170000	1308000	1244000	2019000	2456000	1425000	1943000	1210000	1228000	1216000
24	1251000	1304000	1138000	1294000	1251000	2093000	2505000	1361000	1956000	1214000	1228000	1213000
25	1250000	1317000	1130000	1228000	1256000	2165000	2527000	1305000	1965000	1219000	1228000	1210000
26	1248000	1323000	1140000	1263000	1277000	2209000	2559000	1287000	1958000	1223000	1229000	1202000
27	1244000	1361000	1148000	1266000	1296000	2220000	2526000	1274000	1928000	1227000	1229000	1170000
28	1238000	1372000	1158000	1272000	1292000	2222000	2458000	1260000	1889000	1229000	1227000	1133000
29	1232000	1378000	1168000	1281000	1288000	2210000	2421000	1248000	1844000	1229000	1221000	1122000
30	1237000	1391000	1178000	1261000	---	2188000	2397000	1240000	1799000	1225000	1218000	1125000
31	1230000	---	1187000	1267000	---	2165000	---	1226000	---	1220000	1219000	---
WTR YR 1984												
(†)	706.48	709.13	705.71	707.11	707.47	718.80	721.13	706.40	714.70	706.30	706.28	704.54
(‡)	+61000	+161000	-204000	+80000	+210000	+877000	+232000	-1171000	+573000	-579000	-1000	-94000
MAX	1251000	1391000	1465000	1390000	1296000	2222000	2559000	2564000	1965000	1752000	1229000	1229000
MIN	1174000	1190000	1130000	1198000	1192000	1256000	2120000	1226000	1213000	1199000	1202000	1122000

CAL YR 1983....................(‡) -199000
WTR YR 1984....................(‡) -44000

(†) Elevation, in feet NGVD, at end of month.
(‡) Change in contents, in acre-feet.

06922450 OSAGE RIVER BELOW HARRY S. TRUMAN DAM AT WARSAW, MO

LOCATION.--Lat 38°15'41", long 93°24'16", NE¼SW¼ sec.17, T.40 N., R.22 W., Benton County, Hydrologic Unit 10290109, on right bank 2,000 ft below Harry S. Truman Dam, and 1.5 mi northwest of Warsaw.

DRAINAGE AREA.--7,856 mi² uncontrolled area below other reservoirs.

PERIOD OF RECORD.--May 1978 to current year.

GAGE.--Acoustic flow monitor. Datum of gage is at National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers).

REMARKS.--Records are fair above 500 cfs and poor below 500 cfs. Records not published prior to 1982 water year due to test period of acoustic flow monitor which included periods of unreliable record. Pumpback tests were made July 24-27 and Sept. 9-12.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 52,200 ft³/s June 2, 1983; no flow most years.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 51,300 ft³/s Apr. 28; no flow many days.

DISCHARGE (CUBIC FEET/SECOND) WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	4210	18800	0	4800	23900	37700	0	10800	30800	4640	1880
2	0	3800	20200	0	953	23800	39100	0	0	31200	3600	0
3	0	2450	20100	0	971	23600	36000	0	0	30400	3740	0
4	0	1990	19900	0	5220	23000	23600	11700	6350	31400	375	0
5	0	0	10400	0	773	24600	17800	39600	1820	31800	375	0
6	515	0	6940	0	7580	26600	19900	40200	442	32700	1900	1470
7	150	10100	688	0	10400	27600	25000	47000	5050	33400	1090	1910
8	0	9960	6770	0	7210	29700	31100	46900	5120	34600	2570	0
9	0	9280	11400	0	7630	30000	40100	50400	0	35300	0	0
10	0	10500	17400	2170	6300	0	40900	50500	2740	25800	0	0
11	0	9630	16500	10100	3670	0	40700	50300	1870	9940	371	0
12	614	8940	20500	5620	3380	6890	40500	43500	1650	4750	371	0
13	0	13000	19600	5740	1440	6570	40600	41200	2270	7610	183	1520
14	0	6180	20100	5060	4740	6720	40500	40800	1880	1360	6070	5810
15	0	11700	20500	0	9210	7030	40500	50700	3730	0	329	0
16	0	6040	20800	3520	9120	18500	42500	50500	1700	0	38	0
17	0	7130	20300	11000	6370	16800	49100	32000	1670	0	0	0
18	1010	1670	20300	9940	0	18000	50600	32400	1690	14700	258	0
19	3530	0	24100	9710	0	22600	50000	32900	1650	20200	303	3740
20	6160	0	22600	12100	0	29500	48800	33600	2420	21200	0	4940
21	10600	2780	6150	11700	0	25300	3020	31200	1950	3700	0	0
22	6580	0	7340	10800	0	21800	0	8350	14900	197	3340	0
23	6350	10400	10300	10500	0	22000	14900	17800	14800	246	537	0
24	7650	9940	20200	10700	0	21200	9400	34500	14200	269	951	4860
25	6710	10000	9560	10800	0	20400	20600	33800	14600	0	0	2060
26	4560	10000	0	11700	0	23200	14000	13300	23700	472	0	4760
27	4160	18300	0	1000	10100	35800	38700	13400	29400	0	227	20400
28	3980	20300	0	0	21100	36700	51300	13500	29600	96	1720	16200
29	4590	20200	0	0	22900	37400	50500	13500	29900	532	4070	0
30	0	20200	0	1270	---	38000	24100	11400	30200	3290	718	0
31	4660	---	0	2860	---	37900	---	11600	---	3570	0	---
TOTAL	71819	238700	397640	146290	143867	685110	981520	896550	256102	409532	37776	69550
MEAN	2317	7957	12830	4719	4961	22100	32720	28920	8537	13210	1219	2318
MAX	10600	20300	24100	12100	22900	38000	51300	50700	30200	35300	6070	20400
MIN	0	0	0	0	0	0	0	0	0	0	0	0

CAL YR 1983	TOTAL 4157950	MEAN 11390	MAX 52200	MIN 0
WTR YR 1984	TOTAL 4334456	MEAN 11840	MAX 51300	MIN 0

BEST COPY AVAILABLE

06923500 BENNETT SPRING AT BENNETT SPRINGS, MO

LOCATION.--Lat 37°43'03", long 92°51'26", in NW¼ sec.1, T.34 N., R.18 W., Dallas County, Hydrologic Unit 10290110, on left bank 300 ft downstream from spring outlet, 1.5 mi upstream from Niangua River and at Bennett Springs.

PERIOD OF RECORD.--September 1916 to March 1920, October 1928 to September 1941, October 1965 to current year. Prior to March 1920 and October 1939 to September 1941 monthly discharge only published in WSP 1310. Occasional discharge measurements 1923, 1964, 1965.

GAGE.--Nonrecording gage. Datum of gage 864.71 ft National Geodetic Vertical Datum of 1929. Sept. 1916 to Mar. 1920, in the vicinity, datum unknown; Oct. 17, 1928, to Apr. 11, 1934, at site 1,780 ft downstream at datum 2.30 ft lower; Apr. 12 to Dec. 13, 1934, nonrecording gage, and Dec. 14, 1934, to Sept. 17, 1941, water-stage recorder at present site and datum.

REMARKS.--Records good. Several observations of water temperature and specific conductance were made during the year. Occasional runoff from drainage area of 42.4 mi² included in records.

AVERAGE DISCHARGE.--35 years (1916-19, 1928-41, 1965-84), 160 ft³/s, 115,900 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,000 ft³/s Nov. 1, 1973, gage height, 9.14 ft from floodmark, includes about 7,200 ft³/s from Spring Creek, by indirect measurement of peak flow over dam; minimum, about 55 ft³/s Nov. 13, 1934.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 2,250 ft³/s Mar. 4; minimum daily, 104 ft³/s Oct. 1.

DISCHARGE (CUBIC FEET/SECOND) WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	104	146	256	166	168	259	386	327	222	162	154	132
2	105	154	248	166	168	276	373	324	217	164	152	132
3	106	219	253	166	166	390	650	321	212	164	164	142
4	108	734	315	166	164	2250	556	312	207	166	150	132
5	110	551	330	181	162	930	497	309	207	209	144	132
6	112	450	285	217	160	620	465	315	207	181	142	132
7	114	351	270	222	156	534	500	315	202	174	142	130
8	116	306	256	219	154	455	550	312	202	181	142	132
9	118	282	248	222	154	403	591	309	202	177	160	174
10	122	259	237	315	156	369	523	306	197	172	170	150
11	124	245	237	300	156	354	486	303	195	174	148	146
12	122	237	237	273	333	333	481	297	192	177	144	140
13	119	230	237	248	361	327	460	291	190	175	140	134
14	117	220	239	230	327	318	436	288	188	173	142	132
15	115	207	232	222	294	309	417	282	192	171	140	132
16	115	192	222	212	282	303	403	276	195	169	138	132
17	113	188	209	202	259	351	394	270	197	166	140	130
18	126	181	197	194	253	441	378	264	190	164	140	128
19	122	202	195	188	239	1080	358	262	192	160	140	128
20	315	312	193	182	227	860	412	262	217	160	139	128
21	407	294	190	177	219	668	895	256	197	160	138	127
22	390	285	185	177	214	562	800	250	188	160	138	127
23	288	445	181	172	209	507	614	239	181	160	136	125
24	248	445	180	172	199	485	545	239	179	158	134	125
25	224	400	178	177	210	460	486	237	172	158	134	124
26	207	350	176	177	235	441	441	267	170	158	132	126
27	188	315	174	177	250	441	403	237	170	158	132	128
28	177	306	174	177	259	441	369	253	170	157	132	130
29	166	285	166	177	256	465	354	239	168	157	132	129
30	156	267	167	172	---	480	344	237	166	156	132	127
31	150	---	167	170	---	399	---	232	---	156	132	---
TOTAL	5104	9058	6834	6216	6390	16511	14567	8631	5784	5177	4403	3986
MEAN	165	302	220	201	220	533	486	278	193	167	142	133
MAX	407	734	330	315	361	2250	895	327	222	209	170	174
MIN	104	146	166	166	154	259	344	232	166	156	132	124

CAL YR 1983	TOTAL	76162	MEAN	209	MAX	2240	MIN	104
WTR YR 1984	TOTAL	92661	MEAN	253	MAX	2250	MIN	104

06923700 NIANGUA RIVER AT BENNETT SPRINGS, MO.

WATER-QUALITY RECORDS

LOCATION.--Lat 37°44'17", long 92°51'37", in SE¼SE¼ sec. 25, T.35 N., R.18 W., Dallas County, Hydrologic Unit 10290110, at bridge on Highway 64.

PERIOD OF RECORD.--October 1982 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	TIME	AGENCY ANALYZING SAMPLE (CODE NUMBER) (00028)	STREAMFLOW, INSTANTANEOUS (CFS) (00061)	SPECIFIC CONDUCTANCE (UMHOS) (00095)	PH (STANDARD UNITS) (00400)	TEMPERATURE (DEG C) (00010)	OXYGEN, DISSOLVED (MG/L) (00300)	OXYGEN, DISSOLVED (PERCENT SATURATION) (00301)	OXYGEN DEMAND, CHEMICAL (LOW LEVEL) (MG/L) (00335)	OXYGEN DEMAND, CHEMICAL (HIGH LEVEL) (MG/L) (00340)	COLIFORM, FECAL, 0.7 UM-MF (COLS./100 ML) (31625)
OCT											
18...	1000	29001	125	390	7.7	14.0	8.6	82	<5	--	37
NOV											
10...	1400	29001	540	288	7.7	11.0	9.2	83	7	--	230
DEC											
06...	1030	29001	1100	245	7.7	8.5	9.4	80	8	--	540
JAN											
03...	1130	29001	185	325	7.7	7.0	11.4	92	<5	--	31
FEB											
06...	1030	29001	200	333	8.0	7.0	12.2	99	<5	--	<1
MAR											
05...	1030	29001	6290	158	7.4	7.0	11.0	90	30	--	6800
APR											
02...	1000	29001	860	254	7.6	11.0	10.0	90	<5	--	K26
MAY											
08...	0845	29001	700	290	7.6	13.0	10.8	101	<5	--	100
JUN											
05...	0830	29001	95	345	7.6	17.0	8.8	91	<5	--	130
JUL											
10...	1000	80020	271	362	7.8	18.0	8.6	90	--	12	200
AUG											
06...	1030	80020	135	386	7.7	17.0	9.8	100	--	<10	26
SEP											
11...	0930	80020	200	328	7.3	18.5	7.6	80	--	30	1000

DATE	HARDNESS (MG/L AS CACO3) (00900)	HARDNESS, NONCARBONATE (MG/L CACO3) (00902)	CALCIUM DISSOLVED (MG/L AS CA) (00915)	MAGNESIUM, DISSOLVED (MG/L AS MG) (00925)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	POTASSIUM, DISSOLVED (MG/L AS K) (00935)	ALKALINITY FIELD (MG/L AS CACO3) (00410)	CARBON DIOXIDE DISSOLVED (MG/L AS CO2) (00405)	SULFATE DISSOLVED (MG/L AS SO4) (00945)	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)
OCT										
18...	230	33	46	27	4.2	1.2	193	7.4	<10	5.0
NOV										
10...	--	--	--	--	--	--	148	5.7	--	--
DEC										
06...	--	--	--	--	--	--	112	4.3	--	--
JAN										
03...	160	28	31	21	3.2	1.3	136	5.2	15	5.0
FEB										
06...	--	--	--	--	--	--	162	3.1	--	--
MAR										
05...	--	--	--	--	--	--	65	5.0	--	--
APR										
02...	130	13	25	16	2.8	1.5	115	5.6	16	5.0
MAY										
08...	--	--	--	--	--	--	137	6.7	--	--
JUN										
05...	--	--	--	--	--	--	165	8.0	--	--
JUL										
10...	190	37	41	22	2.8	1.5	156	4.8	6.8	5.0
AUG										
06...	--	--	--	--	--	--	188	7.2	--	--
SEP										
11...	--	--	--	--	--	--	149	14	--	--

K--Results based on colony count outside the acceptable range (non-ideal colony count).

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06923700 NIANGUA RIVER AT BENNETT SPRINGS, MO--Continued

DATE	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDED (MG/L) (00530)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	PHOS- PHORUS, TOTAL (MG/L AS P) (00665)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD) (01027)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU) (01042)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)
OCT 18...	.10	210	<1	.73	.050	<.050	<2	<2	<5	<5
NOV 10...	--	--	5	1.1	.020	<.050	--	--	--	--
DEC 06...	--	--	7	1.2	.020	.050	--	--	--	--
JAN 03...	.10	189	1	1.4	.030	<.050	<2	<2	<5	<5
FEB 06...	--	--	1	1.1	<.010	<.050	--	--	--	--
MAR 05...	--	--	184	.73	.050	.130	--	--	--	--
APR 02...	.10	160	6	.39	<.010	<.050	<2	<2	<5	<5
MAY 08...	--	--	1	.80	.010	<.050	--	--	--	--
JUN 05...	--	--	6	1.1	.020	<.050	--	--	--	--
JUL 10...	<.10	--	3	.50	.040	.020	<1	<1	4	1
AUG 06...	--	--	2	.90	.020	.010	--	--	--	--
SEP 11...	--	--	7	.70	.050	.050	--	--	--	--

DATE	IRON, TOTAL RECOV- ERABLE (UG/L AS FE) (01045)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB) (01051)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN) (01055)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG) (71900)	MERCURY DIS- SOLVED (UG/L AS HG) (71890)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN) (01092)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)
OCT 18...	40	<20	<5	<5	22	23	<.2	<.2	<10	13
NOV 10...	--	--	--	--	--	--	--	--	--	--
DEC 06...	--	--	--	--	--	--	--	--	--	--
JAN 03...	90	20	<5	<5	<20	<20	<.2	<.2	<10	<10
FEB 06...	--	--	--	--	--	--	--	--	--	--
MAR 05...	--	--	--	--	--	--	--	--	--	--
APR 02...	200	30	<5	<5	<20	<20	<.2	<.2	30	10
MAY 08...	--	--	--	--	--	--	--	--	--	--
JUN 05...	--	--	--	--	--	--	--	--	--	--
JUL 10...	80	10	<1	6	<10	8	.1	<.1	<10	52
AUG 06...	--	--	--	--	--	--	--	--	--	--
SEP 11...	--	--	--	--	--	--	--	--	--	--

06925500 LAKE OF THE OZARKS NEAR BAGNELL, MO

LOCATION.--Lat 38°12'19", long 92°37'21", in SE¼ sec.19, T.40 N., R.15 W., Miller County, Hydrologic Unit 10290111, at left end of powerhouse section near left end of Bagnell Dam on Osage River, 2 mi southwest of Bagnell, and at mile 81.7.

DRAINAGE AREA.--14,000 mi².

PERIOD OF RECORD.--April 1931 to current year. Gage-height records collected at sam site since 1932 and are contained in reports of the National Weather Service, published s Osage River at Bagnell Dam, Lakeside.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Dautm, adjustment of 1912. To obtain National Geodetic Vertical Datum of 1929 subract 0.88 ft.

REMARKS.--Lake is formed by concrete gravity dam. Spillway is equipped with 12 taintor gates 34 ft wide by 22 ft high. Storage began in 1931. Usable capacity 1,218,000 acre-ft between elevations 630.00 ft (maximum draw-down) and 660.00 ft (top of gates). Dead storage, 708,800 acre-ft. Figures given herein are usable contents. Water is used for generating electricity.

COOPERATION.--Records furnished by Union Electric Company of Missouri.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 1,527,000 acre-ft, May 22, 1943, elevation, 665.45 ft; minimum, 322,100 acre-ft Feb. 13, 1948, elevation 639.95 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 1,252,000 acre-ft Apr. 21, elevation, 660.63 ft; minimum, 894,900 acre-ft Feb. 24, elevation, 653.98 ft.

MONTHEND ELEVATION AND CONTENTS, AT 2400, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

Date	Elevation (feet)	Contents (acre-ft)	Change in contents (acre-feet)
Sept. 30	656.62	1,030,000	-7,000
Oct. 31	658.62	1,139,000	+104,000
Nov. 30	659.28	1,177,000	+38,000
Dec. 31	656.98	1,049,000	-128,000
CAL YR 1983	------	------	-76,000
Jan. 31	656.08	1,001,000	-48,000
Feb. 29	654.81	936,100	-64,900
Mar. 31	659.86	1,210,000	+273,900
Apr. 30	659.90	1,212,000	+2,000
May 31	659.16	1,170,000	-42,000
June 30	658.46	1,130,000	-40,000
July 31	659.40	1,184,000	+54,000
Aug. 31	656.82	1,040,000	-144,000
Sept. 30	658.50	1,132,000	+92,000
WTR YR 1984	------	------	+102,000

06926000 OSAGE RIVER NEAR BAGNELL, MO

LOCATION.--Lat 38°11'29", long 92°36'26", in NW¼NE¼SE¼ sec.29, T.40 N., R.15 W., Miller County, Hydrologic Unit 10290111, on center pier of U.S. Highway 54 bridge, 1.3 mi downstream from hydroelectirc plant of Union Electric Company of Missouri, and at mile 80.5.

DRAINAGE AREA.--14,000 mi^2, approximately.

PERIOD OF RECORD.--October 1880 to current year. Monthly discharge only for some periods published in WSP 1310. Gage-height records collected in this vicinity 1880-1931 are contained in reports of Missouri River Commission or National Weather Service.

GAGE.--Water-stage recorder. Datum of gage is 549.13 ft National Geodetic Vertical Datum of 1929 (levels by Missouri State Highway Commission). Recording gage from Oct. 15, 1930 to Sept. 30, 1979, and a nonrecording gage from Oct. 1880 to Oct. 15, 1930 at site 1.7 mi downstream at datum .56 ft lower. Datum of gage published in error as 548.87 ft in water year 1980-83.

REMARKS.--Records fair. Flow regulated by Lake of the Ozarks.

AVERAGE DISCHARGE.--104 years, 9,618 ft^3/s, 6,968,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 220,000 ft^3/s May 19, 1943, gage height, 48.8 ft, minimum, 183 ft^3/s Sept. 9, 1969; minimum daily discharge, 220 ft^3/s Dec. 12, 1917.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known prior to 1943, 43.1 ft in June 1844, discharge, 164,000 ft^3/s.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 58,300 ft^3/s Apr. 21; minimum daily, 410 ft^3/s Oct. 16.

DISCHARGE (CUBIC FEET/SECOND) WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	645	5440	32600	435	9540	31600	35700	9100	10800	21200	4730	645
2	772	12900	25700	938	10400	31400	40800	2710	9520	26600	7660	652
3	645	20700	24000	585	7220	31600	47600	6460	795	27800	3340	645
4	638	29000	23400	420	1090	34400	44400	17300	3000	33100	802	638
5	638	5990	22900	420	3280	32600	34800	33700	1580	34000	698	765
6	652	7260	15200	425	12300	32200	34100	34000	562	34700	5000	1120
7	675	10400	15000	450	12800	32100	34000	40500	1920	34600	10400	855
8	682	10300	12900	445	14300	32060	34400	47300	8800	34700	5510	758
9	682	12400	13900	5260	13700	32000	37200	47500	1330	33800	2960	772
10	682	12500	15600	4200	10700	21200	45100	47700	630	17000	3190	5060
11	698	11900	7000	6400	1880	15000	47700	47700	968	24700	3420	5640
12	705	13500	20000	7780	8840	18690	48000	47700	1150	8500	2010	8280
13	682	10600	17000	11700	13600	16600	47900	43200	2590	11300	10500	6170
14	682	6720	24000	12300	7700	18000	45700	39600	975	3400	12900	1220
15	502	4730	20000	9620	4900	25300	43600	38700	1970	1720	3660	660
16	410	8840	20200	12700	8320	24200	42700	38700	2880	1130	1270	652
17	415	8860	23400	16600	9600	17200	44000	37200	3210	712	750	660
18	420	10200	22500	19300	2230	11900	48400	34200	2280	5320	660	638
19	425	1010	20200	10200	570	28200	49700	34000	5500	10500	645	638
20	457	592	19800	8660	938	34100	49900	34000	2650	12500	645	638
21	480	9000	19700	1110	3830	34000	58300	34000	3050	6080	4080	638
22	5030	8700	13000	458	5630	33900	45000	33200	11600	2710	1580	675
23	1100	12100	15200	9700	3590	33800	23600	24700	18200	1010	660	652
24	7160	11000	18800	13200	6300	33800	15300	31600	17600	720	638	1580
25	6680	15800	22200	14400	728	33900	29700	32200	19200	5030	638	780
26	7260	16500	13800	14100	440	33800	15300	11500	26900	1930	750	638
27	8760	13100	9600	5740	8280	33800	33700	12400	32800	772	1400	638
28	5690	19200	2390	525	16700	33800	35700	11800	32900	705	6800	660
29	870	23400	1940	420	29100	33900	42100	14200	32900	697	7100	660
30	420	21200	1550	9140	---	33900	40900	14400	15800	682	1850	660
31	3700	---	682	7820	---	33900	---	12900	---	3020	690	---
TOTAL	59257	353842	514162	205451	228506	892700	1195300	914170	273660	400638	106936	44687
MEAN	1912	11790	16590	6627	7880	28800	39840	29490	9122	12920	3450	1490
MAX	8760	29000	32600	19300	29100	34400	58300	47700	32900	34700	12900	8280
MIN	410	592	682	420	440	11900	15300	2710	562	682	638	638

CAL YR 1983	TOTAL	5052639	MEAN	13840	MAX	67200	MIN	410
WTR YR 1984	TOTAL	5189309	MEAN	14180	MAX	58300	MIN	410

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06926500 OSAGE RIVER NEAR ST. THOMAS, MO

LOCATION.--Lat 38°20'20", long 92°13'34", in SE¼SW¼ sec. 35, T.42 N., R.12 W., Cole County, Hydrologic Unit 10290111, on left bank 0.5 mi downstream from Sugar Creek, 2.5 mi south of St. Thomas, and at mile 43.1.

DRAINAGE AREA.--14,500 mi², approximately.

PERIOD OF RECORD.--August 1931 to current year.

GAGE.--Water-stage recorder. Datum of gage is 528.06 ft National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. Several observations of water temperature and specific conductance were made during the year. Flow regulated by Lake of the Ozarks.

AVERAGE DISCHARGE.--53 years, 10,031 ft³/s, 7,267,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 216,000 ft³/s May 20, 1943, gage height, 43.8 ft; minimum, 346 ft³/s July 12, 1959, Sept. 18, 1960; minimum daily discharge, 373 ft³/s July 12, 1959.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known prior to 1943, about 39.4 in June 1844.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 67,600 ft³/s Apr. 21; minimum daily, 552 ft³/s Oct. 17.

DISCHARGE (CUBIC FEET/SECOND) WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	652	4380	29800	1100	8170	31600	34700	24100	10600	19800	3750	917
2	666	8090	29500	1000	8820	32600	39700	7650	12100	25300	5190	812
3	747	28500	23800	935	9420	33800	48600	7080	6380	27500	8100	804
4	680	43500	24200	935	5240	46400	52300	12700	1330	32700	2800	771
5	659	16100	24100	912	1430	43800	42800	32800	3400	35200	1090	755
6	646	7340	16300	1230	6740	34600	37700	35600	1880	36100	894	820
7	646	8760	14900	1410	11300	33000	36800	37400	1000	36300	7490	1190
8	659	9230	12800	1300	15400	32600	38300	46900	4100	36200	8680	1470
9	659	10900	13500	1620	11400	32300	38800	48700	7040	35600	4480	2430
10	659	12500	14300	7890	13300	26300	45800	48800	2000	22500	3450	1390
11	680	11500	11700	4480	7000	19200	50400	48700	2600	28400	3540	5840
12	723	13200	14400	8720	5240	15700	51700	48700	2800	12400	4340	6800
13	693	11500	16500	8310	14700	16200	51700	47300	3100	10900	3680	8270
14	673	9700	21600	12000	11100	14900	50900	42000	4300	9610	11600	6580
15	666	4890	20800	11300	7700	26000	48300	39700	3800	3750	10400	1520
16	582	6920	19100	9690	5350	23700	46800	39400	3900	1640	3330	804
17	552	8960	20500	14900	9400	23400	45200	38900	4100	1350	1400	724
18	632	9120	22400	18000	8480	16300	48700	35000	4300	1530	899	716
19	600	7920	20000	19000	3090	32100	50900	33900	4500	6470	788	700
20	953	3990	19000	10000	1590	38500	51300	34000	4500	12900	747	686
21	2920	3180	18800	5000	1730	37100	67600	33900	4100	10200	747	686
22	2110	9480	13100	2000	6190	35700	66300	33900	5600	6340	5140	708
23	5360	14900	14100	1000	5500	34800	43600	27100	18400	2700	1550	732
24	2360	16800	16600	11000	4650	35200	18300	30000	21000	1210	820	732
25	8510	12100	20000	14100	5630	36500	31300	32200	23100	908	763	1550
26	6490	18500	18000	13100	1450	35900	19500	22700	26400	5730	755	944
27	7030	14900	10000	13000	3530	35700	29600	12600	33200	1830	820	748
28	7000	16900	5000	3950	13500	36100	34800	12800	34300	917	1710	731
29	4660	22500	2500	1190	26500	36100	40000	13400	34000	790	7380	724
30	1130	22000	1800	2410	---	35600	45700	14700	22300	779	8920	708
31	721	---	1300	9850	---	34900	---	13700	---	763	2900	---
TOTAL	61718	388280	510400	211332	233550	966600	1308100	956330	310130	428323	118153	52262
MEAN	1991	12940	16460	6817	8053	31180	43600	30850	10340	13820	3811	1742
MAX	8510	43500	29800	19000	26500	46400	67600	48800	34300	36300	11600	8270
MIN	552	3180	1300	912	1450	14900	18300	7080	1000	763	747	686

CAL YR 1983	TOTAL	5280374	MEAN	14470	MAX	81800	MIN	552
WTR YR 1984	TOTAL	5545178	MEAN	15150	MAX	67600	MIN	552

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06926510 OSAGE RIVER BELOW ST. THOMAS, MO.
(National stream-quality accounting network station)

WATER-QUALITY RECORDS

LOCATION.--Lat 38°25'18", long 92°12'31", in NW¼NW¼ sec.1, T.42 N., R.12 W., Cole County, Hydrologic Unit 10290111, at bridge on State Highway B, 3.8 mi north of St. Thomas, 8.6 mi downstream from gaging station, and at mile 34.5.

DRAINAGE AREA.--14,500 mi^2 approximately.

PERIOD OF RECORD.--October 1974 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1974 to September 1981.
WATER TEMPERATURE: October 1974 to September 1981.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum daily, 398 micromhos January 1, 1981; minimum daily, 140 micromhos September 3, 1981.
WATER TEMPERATURE: Maximum daily, 30.0°C July 29, 1977, July 25, August 11, 1980; minimum daily, 0.0°C January 21, 1978.

REMARKS.--Records of discharge are given for gaging station 06926500 Osage River near St. Thomas.

WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS) (00061)	SPE-CIFIC CON-DUCT-ANCE (UMHOS) (00095)	PH (STAND-ARD UNITS) (00400)	TEMPER-ATURE (DEG C) (00010)	TUR-BID-ITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./100 ML) (31625)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)
NOV										
29...	1600	20400	260	8.0	12.0	10	8.2	75	96	220
JAN										
12...	1530	6730	251	7.8	1.5	8.0	12.8	89	10	52
MAR										
16...	0930	22900	280	8.2	6.0	20	12.4	97	200	540
MAY										
18...	0900	35100	255	7.9	16.5	13	9.2	92	<4	80
JUL										
27...	0930	2020	283	7.6	25.0	5.0	6.0	71	39	22
SEP										
21...	1100	935	291	8.0	22.0	3.2	7.4	83	21	12

DATE	HARD-NESS (MG/L AS CACO3) (00900)	HARD-NESS, NONCAR-BONATE (MG/L CACO3) (00902)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	PERCENT SODIUM (00932)	SODIUM AD-SORP-TION RATIO (00931)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ALKA-LINITY FIELD (MG/L AS CACO3) (00410)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)
NOV										
29...	140	37	39	11	5.5	8	.2	2.9	106	26
JAN										
12...	140	32	37	11	5.2	7	.2	3.2	106	27
MAR										
16...	140	29	36	11	5.9	8	.2	2.5	106	32
MAY										
18...	110	23	33	7.7	4.9	8	.2	2.4	91	29
JUL										
27...	140	13	40	8.8	5.4	8	.2	2.6	123	26
SEP										
21...	150	40	40	11	5.6	8	.2	2.7	105	24

06926510 OSAGE RIVER BELOW ST. THOMAS, MO--Continued

DATE	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)	FLUORIDE, DISSOLVED (MG/L AS F) (00950)	SILICA, DISSOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L) (70301)	SOLIDS, DISSOLVED (TONS PER AC-FT) (70303)	SOLIDS, DISSOLVED (TONS PER DAY) (70302)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N) (00631)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N) (00608)
NOV 29...	5.2	.10	5.1	159	160	.22	8760	.33	.030
JAN 12...	6.3	.10	4.7	170	160	.23	3090	.56	.040
MAR 16...	6.2	.10	4.3	165	160	.22	10200	.68	.020
MAY 18...	5.1	.10	4.6	159	140	.22	15100	.80	.020
JUL 27...	4.9	.20	4.0	153	170	.21	834	.45	.040
SEP 21...	5.1	.10	4.2	163	160	.22	411	.14	.040

DATE	NITROGEN, AMMONIA DISSOLVED (MG/L AS NH4) (71846)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N) (00625)	PHOSPHORUS, TOTAL (MG/L AS P) (00665)	PHOSPHORUS TOTAL (MG/L AS PO4) (71886)	PHOSPHORUS, DISSOLVED (MG/L AS P) (00666)	PHOSPHORUS, ORTHO, DISSOLVED (MG/L AS P) (00671)	SEDIMENT, SUSPENDED (MG/L) (80154)	SEDIMENT, DISCHARGE, SUSPENDED (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. %FINER THAN .062 MM (70331)
NOV 29...	.04	.70	.050	.15	.010	.020	39	2150	92
JAN 12...	.05	.50	.020	.06	.020	.020	41	745	72
MAR 16...	.03	.90	.020	.06	<.010	.020	42	2600	75
MAY 18...	.03	.70	.030	.09	.020	.020	48	4550	52
JUL 27...	.05	.40	.030	--	.020	.020	28	153	71
SEP 21...	.05	.20	.030	--	.030	.020	--	--	--

DATE	ALUMINUM, DISSOLVED (UG/L AS AL) (01106)	ARSENIC DISSOLVED (UG/L AS AS) (01000)	BARIUM, DISSOLVED (UG/L AS BA) (01005)	BERYLLIUM, DISSOLVED (UG/L AS BE) (01010)	CADMIUM DISSOLVED (UG/L AS CD) (01025)	CHROMIUM, DISSOLVED (UG/L AS CR) (01030)	COBALT, DISSOLVED (UG/L AS CO) (01035)	COPPER, DISSOLVED (UG/L AS CU) (01040)	IRON, DISSOLVED (UG/L AS FE) (01046)	LEAD, DISSOLVED (UG/L AS PB) (01049)
NOV 29...	<10	1	78	<.5	<1	<1	<3	1	14	1
JAN 12...	30	1	71	<.5	<1	<1	<3	1	21	<1
MAY 18...	20	<1	57	<1.0	4	1	<3	2	18	<1
JUL 27...	20	<1	71	2.0	<1	<1	<3	2	9	1

DATE	LITHIUM DISSOLVED (UG/L AS LI) (01130)	MANGANESE, DISSOLVED (UG/L AS MN) (01056)	MERCURY DISSOLVED (UG/L AS HG) (71890)	MOLYBDENUM, DISSOLVED (UG/L AS MO) (01060)	NICKEL, DISSOLVED (UG/L AS NI) (01065)	SELENIUM, DISSOLVED (UG/L AS SE) (01145)	SILVER, DISSOLVED (UG/L AS AG) (01075)	STRONTIUM, DISSOLVED (UG/L AS SR) (01080)	VANADIUM, DISSOLVED (UG/L AS V) (01085)	ZINC, DISSOLVED (UG/L AS ZN) (01090)
NOV 29...	<4	8	<.1	<10	11	<1	<1	120	<6	10
JAN 12...	7	8	<.1	<10	4	<1	<1	110	<6	7
MAY 18...	10	6	<.1	<10	<1	<1	<1	110	<6	17
JUL 27...	9	22	<.1	<10	10	<1	<1	130	<6	<3

06928600 GASCONADE RIVER NEAR HOOKER, MO.

WATER-QUALITY RECORDS

LOCATION.--Lat 37°53'31", long 92°04'53" in SW¼NE¼ sec.36, T.37 N., R.11 W., Pulaski County, Hydrologic Unit 10290201, at bridge on State Highway 28, 2.5 mi northwest of Hooker.

PERIOD OF RECORD.--July 1977 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	TIME	AGENCY ANALYZING SAMPLE (CODE NUMBER) (00028)	STREAMFLOW, INSTANTANEOUS (CFS) (00061)	SPECIFIC CONDUCTANCE (UMHOS) (00095)	PH (STANDARD UNITS) (00400)	TEMPERATURE (DEG C) (00010)	OXYGEN, DISSOLVED (MG/L) (00300)	OXYGEN, DISSOLVED (PERCENT SATURATION) (00301)	OXYGEN DEMAND, CHEMICAL (LOW LEVEL) (MG/L) (00335)	OXYGEN DEMAND, CHEMICAL (HIGH LEVEL) (MG/L) (00340)	COLIFORM, FECAL, 0.7 UM-MF (COLS./100 ML) (31625)
OCT											
26...	1215	29001	1400	271	8.0	15.0	8.8	86	12	--	120
NOV											
30...	1115	29001	4300	258	7.8	9.5	11.0	94	5	--	430
DEC											
19...	1400	29001	1400	261	7.8	1.5	13.8	96	5	--	23
JAN											
24...	1115	29001	690	290	8.0	4.0	13.0	98	<5	--	K3
FEB											
28...	1315	29001	1450	305	8.2	5.0	13.0	101	5	--	37
MAR											
27...	1245	29001	4760	242	8.0	10.5	9.8	88	<5	--	120
APR											
24...	1400	29001	7500	214	7.8	13.0	8.4	78	9	--	1400
MAY											
30...	1000	29001	2300	312	7.9	16.0	8.2	81	<5	--	140
JUN											
27...	1310	29001	680	332	8.0	24.5	7.0	83	<5	--	9
JUL											
19...	1300	80020	317	371	8.1	25.0	7.8	93	--	16	54
AUG											
30...	1200	80020	184	343	8.1	26.0	6.1	74	--	30	29
SEP											
25...	1110	80020	575	330	7.5	22.0	7.7	87	--	20	K290

DATE	HARDNESS (MG/L AS CACO3) (00900)	HARDNESS, NONCARBONATE (MG/L CACO3) (00902)	CALCIUM DISSOLVED (MG/L AS CA) (00915)	MAGNESIUM, DISSOLVED (MG/L AS MG) (00925)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	POTASSIUM, DISSOLVED (MG/L AS K) (00935)	ALKALINITY FIELD (MG/L AS CACO3) (00410)	CARBON DIOXIDE DISSOLVED (MG/L AS CO2) (00405)	SULFATE DISSOLVED (MG/L AS SO4) (00945)	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)
OCT										
26...	150	22	31	18	2.2	2.5	130	2.5	10	6.0
NOV										
30...	--	--	--	--	--	--	121	3.7	--	--
DEC										
19...	--	--	--	--	--	--	133	4.1	--	--
JAN										
24...	--	--	--	18	2.8	1.3	154	3.0	12	6.0
FEB										
28...	--	--	--	--	--	--	141	1.7	--	--
MAR										
27...	--	--	--	--	--	--	109	2.1	--	--
APR										
24...	100	11	21	12	2.0	1.8	91	2.8	11	3.0
MAY										
30...	--	--	--	--	--	--	159	3.9	--	--
JUN										
27...	--	--	--	--	--	--	165	3.2	--	--
JUL										
19...	190	16	38	22	2.6	1.9	170	2.6	6.8	4.7
AUG										
30...	--	--	--	--	--	--	169	2.6	--	--
SEP										
25...	--	--	--	--	--	--	155	9.5	--	--

K--Results based on colony count outside the acceptable range (non-ideal colony count).

06928600 GASCONADE RIVER NEAR HOOKER, MO--Continued

DATE	FLUORIDE, DISSOLVED (MG/L AS F) (00950)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L) (70300)	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MG/L) (00530)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITROGEN, AMMONIA TOTAL (MG/L AS N) (00610)	PHOSPHORUS, TOTAL (MG/L AS P) (00665)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD) (01027)	CADMIUM DISSOLVED (UG/L AS CD) (01025)	COPPER, TOTAL RECOVERABLE (UG/L AS CU) (01042)	COPPER, DISSOLVED (UG/L AS CU) (01040)
OCT										
26...	.10	180	14	1.4	.030	.080	<2	<2	27	<5
NOV										
30...	--	--	16	1.2	.020	<.050	--	--	--	--
DEC										
19...	--	--	4	1.1	.010	.040	--	--	--	--
JAN										
24...	.10	193	5	.87	.040	.100	<2	<2	<5	<5
FEB										
28...	--	--	7	.88	.060	<.050	--	--	--	--
MAR										
27...	--	--	18	.96	<.010	<.050	--	--	--	--
APR										
24...	.10	141	40	.59	.050	.060	<2	<2	<5	<5
MAY										
30...	--	--	13	.29	.020	<.050	--	--	--	--
JUN										
27...	--	--	12	.44	.090	.050	--	--	--	--
JUL										
19...	<.10	183	<2	.20	.020	.020	<1	<1	7	3
AUG										
30...	--	--	6	<.10	.030	.030	--	--	--	--
SEP										
25...	--	--	22	.30	.030	.050	--	--	--	--

DATE	IRON, TOTAL RECOVERABLE (UG/L AS FE) (01045)	IRON, DISSOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOVERABLE (UG/L AS PB) (01051)	LEAD, DISSOLVED (UG/L AS PB) (01049)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN) (01055)	MANGANESE, DISSOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOVERABLE (UG/L AS HG) (71900)	MERCURY DISSOLVED (UG/L AS HG) (71890)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN) (01092)	ZINC, DISSOLVED (UG/L AS ZN) (01090)
OCT										
26...	920	50	<5	<5	50	<20	<.2	<.2	<10	10
NOV										
30...	--	--	--	--	--	--	--	--	--	--
DEC										
19...	--	--	--	--	--	--	--	--	--	--
JAN										
24...	100	<20	<5	<5	<20	<20	<.2	<.2	80	<10
FEB										
28...	--	--	--	--	--	--	--	--	--	--
MAR										
27...	--	--	--	--	--	--	--	--	--	--
APR										
24...	1100	60	<5	<5	60	<20	.2	<.2	<10	<10
MAY										
30...	--	--	--	--	--	--	--	--	--	--
JUN										
27...	--	--	--	--	--	--	--	--	--	--
JUL										
19...	200	6	<1	<1	40	11	<.1	<.1	<10	16
AUG										
30...	--	--	--	--	--	--	--	--	--	--
SEP										
25...	--	--	--	--	--	--	--	--	--	--

06930450 BIG PINEY RIVER AT DEVIL'S ELBOW, MO.

WATER-QUALITY RECORDS

LOCATION.--Lat 37°50'53", long 92°03'44" in SE¼NE¼ sec.18, T.36 N., R.10 W., Pulaski County, Hydrologic Unit 10290202, at bridge on County Highway V at Devil's Elbow.

PERIOD OF RECORD.--July 1977 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	TIME	AGENCY ANALYZING SAMPLE (CODE NUMBER) (00028)	STREAMFLOW, INSTANTANEOUS (CFS) (00061)	SPECIFIC CONDUCTANCE (UMHOS) (00095)	PH (STANDARD UNITS) (00400)	TEMPERATURE (DEG C) (00010)	OXYGEN, DISSOLVED (MG/L) (00300)	OXYGEN, DISSOLVED (PERCENT SATURATION) (00301)	OXYGEN DEMAND, CHEMICAL (LOW LEVEL) (MG/L) (00335)	OXYGEN DEMAND, CHEMICAL (HIGH LEVEL) (MG/L) (00340)	COLIFORM, FECAL, 0.7 UM-MF (COLS./100 ML) (31625)
OCT											
26...	1015	29001	700	290	7.6	13.0	9.2	86	5	--	120
NOV											
30...	1015	29001	2100	220	8.0	9.5	10.4	89	9	--	420
DEC											
19...	1315	29001	900	222	7.9	2.5	13.4	95	8	--	30
JAN											
24...	0915	29001	490	269	8.0	3.0	12.6	93	8	--	K6
FEB											
28...	1200	29001	660	280	8.1	5.0	12.8	101	5	--	6
MAR											
27...	0930	29001	2480	204	7.8	10.0	10.0	89	<5	--	100
APR											
26...	1015	29001	2100	218	7.8	15.0	8.6	84	8	--	46
MAY											
30...	0910	29001	1200	273	7.9	15.5	8.4	82	<5	--	41
JUN											
27...	1450	29001	340	315	8.0	22.0	7.6	86	<5	--	36
JUL											
19...	0930	80020	301	330	7.9	22.0	7.5	84	--	15	52
AUG											
30...	1000	80020	257	334	8.0	24.0	7.4	86	--	30	22
SEP											
25...	0930	80020	430	335	7.9	21.0	7.9	87	--	<10	59

DATE	HARDNESS (MG/L AS CACO3) (00900)	HARDNESS, NONCARBONATE (MG/L CACO3) (00902)	CALCIUM DISSOLVED (MG/L AS CA) (00915)	MAGNESIUM, DISSOLVED (MG/L AS MG) (00925)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	POTASSIUM, DISSOLVED (MG/L AS K) (00935)	ALKALINITY FIELD (MG/L AS CACO3) (00410)	CARBON DIOXIDE DISSOLVED (MG/L AS CO2) (00405)	SULFATE DISSOLVED (MG/L AS SO4) (00945)	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)
OCT										
26...	160	27	33	18	3.0	1.7	130	6.3	12	4.0
NOV										
30...	--	--	--	--	--	--	93	1.8	--	--
DEC										
19...	--	--	--	--	--	--	112	2.7	--	--
JAN										
24...	150	12	33	16	2.5	<1.0	136	2.6	10	4.0
FEB										
28...	--	--	--	--	--	--	132	2.0	--	--
MAR										
27...	--	--	--	--	--	--	85	2.6	--	--
APR										
26...	110	24	22	13	<2.0	1.2	85	2.6	22	3.0
MAY										
30...	--	--	--	--	--	--	132	3.2	--	--
JUN										
27...	--	--	--	--	--	--	147	2.8	--	--
JUL										
19...	170	8	35	20	2.7	1.4	162	3.9	6.1	3.6
AUG										
30...	--	--	--	--	--	--	152	2.9	--	--
SEP										
25...	--	--	--	--	--	--	165	4.0	--	--

K--Results based on colony count outside the acceptable range (non-ideal colony count).

06930450 BIG PINEY RIVER AT DEVIL'S ELBOW, MO--Continued

DATE	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L) (00530)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	PHOS-PHORUS, TOTAL (MG/L AS P) (00665)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD) (01027)	CADMIUM DIS-SOLVED (UG/L AS CD) (01025)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)	COPPER, DIS-SOLVFD (UG/L AS CU) (01040)
OCT										
26...	.10	170	6	.69	.030	<.050	<2	<2	<5	<5
NOV										
30...	--	--	7	.68	.010	<.050	--	--	--	--
DEC										
19...	--	--	2	.65	.020	.030	--	--	--	--
JAN										
24...	.10	172	3	.55	.030	.100	<2	5	<5	<2
FEB										
28...	--	--	1	.56	.050	060	--	--	--	--
MAR										
27...	--	--	20	.56	.010	<.050	--	--	--	--
APR										
26...	.10	139	9	.37	.010	<.050	<2	<2	<5	<5
MAY										
30...	--	--	12	.29	.030	<.050	--	--	--	--
JUN										
27...	--	--	9	.34	.060	<.050	--	--	--	--
JUL										
19...	.10	167	<2	.30	.010	.010	<1	<1	6	2
AUG										
30...	--	--	6	.20	.030	.020	--	--	--	--
SEP										
25...	--	--	11	.30	<.010	.020	--	--	--	--

DATE	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB) (01051)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG) (71900)	MERCURY DIS-SOLVED (UG/L AS HG) (71890)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN) (01092)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)
OCT										
26...	520	<20	<5	<5	34	27	<.2	<.2	<10	12
NOV										
30...	--	--	--	--	--	--	--	--	--	--
DEC										
19...	--	--	--	--	--	--	--	--	--	--
JAN										
24...	100	<20	<5	<5	<20	<20	<.2	<.2	50	<10
FEB										
28...	--	--	--	--	--	--	--	--	--	--
MAR										
27...	--	--	--	--	--	--	--	--	--	--
APR										
26...	320	<20	<5	<5	30	<20	<.2	.8	<10	<10
MAY										
30...	--	--	--	--	--	--	--	--	--	--
JUN										
27...	--	--	--	--	--	--	--	--	--	--
JUL										
19...	120	7	<1	<1	30	9	<.1	<.1	10	10
AUG										
30...	--	--	--	--	--	--	--	--	--	--
SEP										
25...	--	--	--	--	--	--	--	--	--	--

06930800 GASCONADE RIVER ABOVE JEROME, MO.
(National stream-quality accounting network station)

WATER-QUALITY RECORDS

LOCATION.--Lat 37°55'12", long 91°58'33", in NE¼ sec.24, T.37 N., R.10 W., Phelps County, Hydrologic Unit 10290203, at bridge on County Highway D at Jerome, 150 ft upstream from Little Piney Creek, 0.7 mi upstream from gaging station.

DRAINAGE AREA.--2570 mi².

PERIOD OF RECORD.--January 1978 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS) (00061)	SPE-CIFIC CON-DUCT-ANCE (UMHOS) (00095)	PH (STAND-ARD UNITS) (00400)	TEMPER-ATURE (DEG C) (00010)	TUR-BID-ITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)
NOV										
29...	1200	8160	230	7.8	9.5	6.0	9.8	85	210	540
JAN										
24...	1245	1340	275	7.8	4.0	1.2	13.0	98	4	4
MAR										
27...	1500	7520	230	8.0	10.5	6.3	10.2	92	120	170
MAY										
30...	1040	3610	291	8.0	16.0	2.6	8.2	81	88	120
JUL										
20...	1000	527	340	7.9	25.0	1.0	8.8	105	41	56
SEP										
21...	1300	386	330	8.0	22.0	4.7	7.6	86	33	26

DATE	HARD-NESS (MG/L AS CACO3) (00900)	HARD-NESS NONCAR-BONATE (MG/L CACO3) (00902)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	PERCENT SODIUM (00932)	SODIUM AD-SORP-TION RATIO (00931)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ALKA-LINITY FIELD (MG/L AS CACO3) (00410)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)
NOV										
29...	130	20	27	15	2.2	4	.0	1.8	109	9.0
JAN										
24...	170	17	34	20	2.7	3	.0	1.3	151	9.0
MAR										
27...	120	17	25	14	2.1	4	.0	1.8	103	9.5
MAY										
30...	160	20	32	19	2.4	3	.0	1.6	138	8.0
JUL										
20...	180	10	36	21	2.6	3	.0	1.6	167	6.3
SEP										
21...	180	18	36	21	2.4	3	.0	2.1	159	6.7

DATE	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	SOLIDS, DIS-SOLVED (TONS PER AC-FT) (70303)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)
NOV									
29...	3.6	<.10	9.2	129	130	.18	2840	.92	.010
JAN									
24...	5.3	<.10	5.6	189	170	.26	684	--	--
MAR									
27...	4.0	<.10	7.6	133	130	.18	2700	.76	<.010
MAY									
30...	4.0	<.10	5.5	136	160	.19	1330	.29	.020
JUL									
20...	4.1	<.10	9.1	174	180	.24	248	.18	.030
SEP									
21...	3.8	<.10	8.1	173	180	.24	180	.15	.060

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06930800 GASCONADE RIVER ABOVE JEROME, MO--Continued

DATE	NITROGEN, AMMONIA DISSOLVED (MG/L AS NH4) (71846)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N) (00625)	PHOSPHORUS, TOTAL (MG/L AS P) (00665)	PHOSPHORUS TOTAL (MG/L AS PO4) (71886)	PHOSPHORUS, DISSOLVED (MG/L AS P) (00666)	PHOSPHORUS, ORTHO, DISSOLVED (MG/L AS P) (00671)	SEDIMENT, SUSPENDED (MG/L) (80154)	SEDIMENT, DISCHARGE, SUSPENDED (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
NOV 29...	.01	.50	.050	.15	.010	.020	20	441	97
JAN 24...	--	--	--	--	--	--	27	98	68
MAR 27...	--	.20	.040	.12	.010	.040	16	325	78
MAY 30...	.03	.50	.020	--	.020	<.010	98	955	28
JUL 20...	.04	.30	.020	--	.010	<.010	1610	2580	100
SEP 21...	.06	.30	.020	--	.010	<.010	--	--	--

DATE	ALUMINUM, DISSOLVED (UG/L AS AL) (01106)	ARSENIC DISSOLVED (UG/L AS AS) (01000)	BARIUM, DISSOLVED (UG/L AS BA) (01005)	BERYLLIUM, DISSOLVED (UG/L AS BE) (01010)	CADMIUM DISSOLVED (UG/L AS CD) (01025)	CHROMIUM, DISSOLVED (UG/L AS CR) (01030)	COBALT, DISSOLVED (UG/L AS CO) (01035)	COPPER, DISSOLVED (UG/L AS CU) (01040)	IRON, DISSOLVED (UG/L AS FE) (01046)	LEAD, DISSOLVED (UG/L AS PB) (01049)
NOV 29...	60	<1	46	<.5	<1	<1	<3	1	54	2
JAN 24...	<10	1	51	<.5	<1	<1	<3	<1	7	<1
MAY 30...	20	<1	53	2.0	<1	<1	<3	2	13	<1
JUL 20...	<10	<1	56	1.0	<1	<1	<3	2	6	<1

DATE	LITHIUM DISSOLVED (UG/L AS LI) (01130)	MANGANESE, DISSOLVED (UG/L AS MN) (01056)	MERCURY DISSOLVED (UG/L AS HG) (71890)	MOLYBDENUM, DISSOLVED (UG/L AS MO) (01060)	NICKEL, DISSOLVED (UG/L AS NI) (01065)	SELENIUM, DISSOLVED (UG/L AS SE) (01145)	SILVER, DISSOLVED (UG/L AS AG) (01075)	STRONTIUM, DISSOLVED (UG/L AS SR) (01080)	VANADIUM, DISSOLVED (UG/L AS V) (01085)	ZINC, DISSOLVED (UG/L AS ZN) (01090)
NOV 29...	<4	7	<.1	<10	6	<1	1	30	<6	6
JAN 24...	8	10	<.1	<10	<1	<1	<1	36	<6	5
MAY 30...	7	11	<.1	<10	4	<1	<1	36	<6	21
JUL 20...	<4	13	<.1	<10	<1	2	<1	40	<6	16

06932000 LITTLE PINEY CREEK AT NEWBURG, MO

LOCATION.--Lat 37°54'35", long 91°54'12", in SW¼SE¼ sec.22, T.37 N., R.9 W., Phelps County, Hydrologic Unit 10290203, on left bank at downstream side of bridge on State Highway P and T at Newburg, and 2 mi upstream from Mill Creek.

DRAINAGE AREA.--200 mi^2, approximately.

PERIOD OF RECORD.--October 1928 to current year.

GAGE.--Water-stage recorder. Datum of gage is 693.40 ft National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1951, all gages at datum 3.0 ft higher. Prior to Nov. 21, 1963, nonrecording gage at site 100 ft downstream. Nov. 21, 1963, to May 9, 1966, nonrecording gage at present site.

REMARKS.--Records good. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--56 years, 153 ft^3/s, 10.39 in/yr, 110,800 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 32,500 ft^3/s Aug. 14, 1946, gage height, 16.2 ft, present datum from floodmark, from rating curve extended above 21,000 ft^3/s on basis of slope-area measurements at gage heights 15.0 ft and 16.2 ft; maximum gage height, 16.26 ft June 26, 1935, from floodmark, present datum; minimum discharge, 24 ft^3/s Aug. 22-31, 1936, Sept. 19, 20, 1954, Oct. 10-16, 1956.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known, 16.7 ft Aug. 20, 1915, from floodmark, present datum; discharge, 30,000 ft^3/s, from rating curve based on discharge measurements made in 1935 and extended above 25,000 ft^3/s.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 4,900 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)
Oct. 20	1415	6,930	10.07
Nov. 3	2115	*7,010	10.11
Mar. 4	0830	6,360	9.73

Minimum discharge, 55 ft^3/s Sept. 8.

DISCHARGE (CUBIC FEET/SECOND) WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	63	137	310	100	112	178	560	278	123	73	69	57
2	63	692	311	90	111	310	608	268	120	74	68	61
3	63	2430	466	87	116	383	1050	264	115	74	71	68
4	116	2630	647	93	115	2990	865	250	112	101	74	63
5	123	701	472	113	112	868	671	235	109	139	70	61
6	91	498	414	132	105	580	585	334	123	97	69	59
7	83	424	360	129	103	492	530	342	119	86	72	58
8	77	378	335	125	103	438	581	332	116	79	78	69
9	76	350	311	140	105	388	556	289	114	71	113	204
10	73	373	304	169	121	355	500	265	130	71	87	101
11	72	346	623	143	132	329	463	247	136	102	81	368
12	98	317	460	133	464	327	463	226	117	97	77	191
13	89	298	386	127	342	342	427	210	108	84	72	136
14	77	279	357	115	281	315	395	193	103	82	69	113
15	75	263	310	112	249	308	392	185	189	82	66	99
16	73	249	268	112	222	312	380	175	157	81	65	87
17	73	238	238	109	199	505	350	168	110	80	65	80
18	73	231	223	107	192	768	321	163	99	79	67	76
19	85	500	200	102	183	2090	297	160	92	79	66	72
20	2310	756	180	98	169	866	291	166	94	79	64	71
21	740	446	165	97	162	657	2190	156	92	79	62	69
22	617	384	152	97	156	574	1020	151	89	78	97	104
23	366	1870	150	102	152	522	676	145	85	75	74	211
24	267	721	145	107	147	857	541	140	81	78	67	125
25	237	514	140	115	140	843	472	163	78	85	68	110
26	200	440	160	115	150	690	428	178	78	76	66	107
27	176	434	150	117	177	646	395	161	79	67	66	104
28	164	429	140	118	174	1090	351	163	77	67	65	102
29	153	387	135	121	169	888	329	144	73	68	61	94
30	145	353	127	118	---	688	304	132	73	68	58	89
31	139	---	110	113	---	612	---	127	---	69	57	---
TOTAL	7077	18068	8749	3556	4963	21211	16991	6410	3192	2520	2204	3209
MEAN	228	602	282	115	171	684	566	207	106	81.3	71.1	107
MAX	2310	2630	647	169	464	2990	2190	342	189	139	113	368
MIN	63	137	110	87	103	178	291	127	73	67	57	57

CAL YR 1983 TOTAL 89875 MEAN 246 MAX 3440 MIN 55
WTR YR 1984 TOTAL 98150 MEAN 268 MAX 2990 MIN 57

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06933500 GASCONADE RIVER AT JEROME, MO

LOCATION.--Lat 37°55'47", long 91°58'36", in NE¼NE¼SE¼ sec.13, T.37 N., R.10 W., Phelps County, Hydrologic Unit 10290203, on left bank at Jerome, 0.5 mi downstream from Little Piney Creek, and at mile 107.

DRAINAGE AREA.--2,840 mi², approximately.

PERIOD OF RECORD.--April 1903 to July 1906 (published as "At Arlington") and January 1923 to current year. October to December 1922 monthly discharge only, published in WSP 1310. Gage-height records collected intermittently in the vicinity 1885-1926 and at same site since 1938 are contained in reports of National Weather Service.

REVISED RECORDS.--WSP 172: 1904. WSP 566: Drainage area. WSP 1340: 1903-04, 1928(M).

GAGE.--Water-stage recorder. Datum of gage is 657.64 ft National Geodetic Vertical Datum of 1929. Prior to July 26, 1904, nonrecording gage at site 0.8 mi downstream at different datum. July 26, 1904, to July 21, 1906, nonrecording gage at site 0.5 mi upstream from present site at datum about 0.85 ft higher than present gage. Jan. 3, 1923, to Sept. 29, 1928, nonrecording gage at site 400 ft downstream from present site at datum 0.14 ft lower than present datum. Sept. 30, 1928, to Jan. 17, 1939, nonrecording gage at present site and datum.

REMARKS.--Records good. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--64 years (1903-05, 1922-84), 2,511 ft³/s, 12.01 in/yr, 1,819,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 136,000 ft³/s Dec. 5, 1982, gage height, 31.34 ft; minimum, 254 ft³/s Sept. 21, 22, 1956.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Jan. 6, 1897 reached a stage about 29.0 ft, discharge, 120,000 ft³/s. A stage of 28.6 ft was reached on Aug. 20, 22, 1915, discharge, 114,000 ft³/s.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 16,000 ft³/s and maximum (*):

Date	Time	Discharge (ft³/s)	Gage height (ft)
Nov. 5	1445	43,800	18.46
Nov. 25	0400	25,600	13.58
Mar. 5	2030	24,700	13.29
Mar. 20	1900	*45,600	18.89
Apr. 23	1400	24,700	13.29

Minimum discharge, 510 ft³/s Sept. 21, 22.

DISCHARGE (CUBIC FEET/SECOND) WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	527	1590	6050	1660	1650	2620	7360	3970	2970	945	603	639
2	524	4990	5030	1640	1620	2870	6430	3680	2610	921	586	701
3	514	18800	4750	1590	1600	3590	9140	3420	2340	979	587	637
4	593	23200	6540	1570	1570	14300	12200	3280	2120	1030	669	602
5	810	39800	10200	1630	1550	22600	12000	3090	2000	1430	699	657
6	692	24300	9220	1850	1500	23800	9300	3570	1840	1220	806	650
7	839	11400	7120	2050	1460	17200	7510	3880	1830	1080	692	630
8	792	6800	5630	2230	1420	9040	6810	4330	1640	1190	655	655
9	710	5200	4720	2440	1400	6870	6680	5030	1600	1150	885	1210
10	672	4520	4170	3160	1430	5600	7430	4680	1680	1170	797	1070
11	649	3960	5300	3400	1480	4800	8500	4180	1720	1330	752	1600
12	727	3520	6060	3000	3680	4280	7620	3690	1610	1300	1000	1270
13	707	3250	6480	2680	11200	4080	6740	3300	1520	1110	937	973
14	688	3010	6330	2440	13400	3960	6050	3020	1390	951	858	926
15	676	2800	5490	2240	11500	3730	5570	2820	1420	987	718	729
16	670	2580	4780	2110	9500	3670	5110	2610	1530	969	752	749
17	666	2390	4150	1980	7000	5200	4820	2570	1530	924	717	708
18	668	2230	3630	1880	6500	8080	4500	2320	1590	793	657	607
19	701	2820	3230	1710	6000	18400	4160	2330	1560	760	596	558
20	5620	7160	2920	1600	5500	37700	3940	2330	1770	739	579	537
21	9280	11600	2740	1610	5100	41000	9620	2240	2050	760	566	523
22	11800	11500	2630	1510	4800	23100	19500	2120	1720	801	769	617
23	9120	11700	2400	1580	4500	9910	24100	2110	1600	780	651	1590
24	5960	20400	2380	1560	4200	8520	16200	2200	1500	760	620	1220
25	4180	22500	2180	1540	3900	8850	9800	2210	1590	744	625	1140
26	3240	18100	2530	1540	3600	9180	7760	2370	1410	727	616	1090
27	2730	8910	2110	1600	3300	8540	6460	2740	1280	669	604	946
28	2400	8040	2040	1640	3000	8730	5470	3010	1140	620	606	929
29	2120	8720	1900	1700	2800	9860	4770	3520	1140	687	560	936
30	1890	7930	1770	1720	---	10700	4400	3830	1020	766	555	962
31	1720	---	1730	1690	---	9280	---	3580	---	630	550	---
TOTAL	72885	303720	136210	60550	126160	350060	249950	98030	50720	28922	21267	26061
MEAN	2351	10120	4394	1953	4350	11290	8332	3162	1691	933	686	869
MAX	11800	39800	10200	3400	13400	41000	24100	5030	2970	1430	1000	1600
MIN	514	1590	1730	1510	1400	2620	3940	2110	1020	620	550	523

CAL YR 1983 TOTAL 1350833 MEAN 3701 MAX 72300 MIN 447
WTR YR 1984 TOTAL 1524535 MEAN 4165 MAX 41000 MIN 514

06934500 MISSOURI RIVER AT HERMANN, MO

LOCATION.--Lat 38°42'36", long 91°26'21", in SW¼ sec.25, T.46 N., R.5 W., Montgomery County, Hydrologic Unit 10300200, on downstream side of third pier from right abutment of bridge on State Highway 19 at Hermann. River mile 97.9.

DRAINAGE AREA.--524,200 mi² approximately.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1897 to current year. Prior to August 1928 monthly discharge only published in WSP 1310. Gage-height records 1873-99 collected at site 480 ft downstream are contained in reports of Missouri River Commission; since 1900 in reports of National Weather Service.

REVISED RECORDS.--WDR MO-76-1: Drainage area.

GAGE.--Water-stage recorder and nonrecording gage. Datum of gage is 481.56 ft National Geodetic Vertical Datum of 1929. Prior to Sept. 26, 1930, nonrecording gage at site 480 ft downstream at datum 0.07 ft lower. Sept. 26, 1930 to Mar. 27, 1932, nonrecording gage, Mar. 28, 1932 to June 12, 1945, water-stage recorder, June 13, 1945, to Apr. 2, 1946, May 13 to Sept. 30, 1978, nonrecording gage at present site and datum.

REMARKS.--Water discharge records good. Discharge measurements made weekly except during ice-flow periods. Some regulation from many upstream reservoirs.

AVERAGE DISCHARGE.--87 years, 80,589 ft³/s, 58,390,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 676,000 ft³/s June 6, 7, 1903, gage height, 21.5 ft, discharge computed by Corps of Engineers; maximum gage height, 33.70 ft Apr. 25, 1973; minimum, about 4,200 ft³/s Jan. 10-12, 1940; minimum gage height observed, -0.29 ft Jan. 5, 6, 1940.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 1844 reached a stage of 35.5 ft, discharge, about 892,000 ft³/s computed by Corps of Engineers.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 314,000 ft³/s Apr. 23, gage height, 28.53 ft; minimum, 26,200 ft³/s Jan. 1.

DISCHARGE (CUBIC FEET/SECOND) WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	52800	56600	150000	26900	61800	114000	190000	238000	159000	201000	79800	66800
2	52900	67600	140000	26600	92400	115000	174000	244000	147000	210000	80100	64100
3	54600	92500	119000	27400	86300	120000	182000	252000	140000	224000	80600	63700
4	56200	142000	127000	29200	80800	150000	215000	263000	125000	231000	81000	62800
5	57700	159000	126000	32000	76700	181000	250000	265000	112000	250000	76400	63100
6	59200	134000	117000	36600	78500	158000	265000	258000	108000	256000	73800	64000
7	60900	115000	103000	42300	80000	140000	264000	237000	104000	260000	72200	64300
8	61800	106000	95700	45400	83000	134000	254000	220000	101000	262000	77300	64500
9	61600	86700	87500	46900	86000	125000	262000	215000	129000	256000	78400	69800
10	60100	81600	83700	53200	88000	116000	273000	211000	198000	240000	75000	67600
11	58200	86300	87900	61200	90000	104000	279000	205000	230000	211000	74300	71900
12	56700	90100	107000	60000	92000	94900	280000	202000	249000	187000	74500	71700
13	55200	94700	121000	63500	95600	90300	275000	202000	264000	175000	74700	72400
14	55500	93600	116000	64500	96400	87100	275000	198000	270000	162000	75400	75500
15	56900	87700	110000	67100	97300	94300	273000	199000	269000	151000	82300	75300
16	57100	79100	97800	65500	101000	126000	254000	197000	263000	142000	79600	73700
17	56100	77900	88100	64000	99300	142000	236000	189000	257000	136000	72300	74100
18	54900	78600	82700	67000	101000	152000	225000	176000	250000	133000	69300	69000
19	54800	78000	79000	65700	113000	198000	221000	164000	245000	131000	67500	66200
20	57300	83600	74300	58900	115000	260000	214000	159000	245000	133000	66100	65700
21	63100	76200	70400	51300	110000	259000	253000	165000	241000	134000	65200	65700
22	79200	78100	65300	48300	109000	241000	306000	184000	238000	127000	65500	65800
23	80500	107000	57800	43100	104000	224000	310000	208000	240000	120000	68200	65400
24	76500	145000	45800	44200	93100	218000	295000	203000	246000	111000	67000	65600
25	70700	141000	41000	54200	87000	222000	275000	199000	248000	105000	65400	65500
26	71100	131000	43100	59000	84700	230000	263000	202000	245000	101000	65200	64900
27	67700	126000	38900	58700	86700	236000	233000	183000	235000	98600	65400	65300
28	67300	139000	36200	57300	95100	241000	222000	177900	224000	91600	65300	65800
29	66000	156000	34700	50300	105000	238000	214000	189000	212000	86100	65000	66000
30	61700	103000	30000	47900	---	231000	220000	192000	208000	81800	65000	66100
31	57800	---	28000	50400	---	212000	---	176000	---	80300	64000	---
TOTAL	1902100	3092900	2603900	1568600	2688700	5253600	7452000	6372000	6202000	5087400	2231800	2022300
MEAN	61360	103100	84000	50600	92710	169500	248400	205500	206700	164100	71990	67410
MAX	80500	159000	150000	67100	115000	260000	310000	265000	270000	262000	82300	75500
MIN	52800	56600	28000	26600	61800	87100	174000	159000	101000	80300	64000	62800

CAL YR 1983 TOTAL 41319700 MEAN 113200 MAX 382000 MIN 28000
WTR YR 1984 TOTAL 46477300 MEAN 127000 MAX 310000 MIN 26600

06934500 MISSOURI RIVER AT HERMANN, MO--Continued
(National stream-quality accounting network station)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--July 1969 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1974 to current year.
WATER TEMPERATURE: October 1974 to current year.

REMARKS.--Water temperature and specific conductance samples collected daily by observer.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: (Water years 1976-84) Maximum daily, 2150 micromhos December 9, 1978; minimum daily, 205 micromhos April 16, 1979.
WATER TEMPERATURE: (Water years 1976-84) Maximum daily, 32.0°C July 14, 17, 18, 19, 20, 1980; minimum daily 0.0°C on many days during winter period.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum daily, 830 micromhos August 26, 27; minimum daily, 335 micromhos June 20.
WATER TEMPERATURE: Maximum daily, 29.0°C August 13, 18, 28, 29; minimum daily, 0.0°C, January 16, 18, February 5.

WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS) (00061)	SPECIFIC CONDUCTANCE (UMHOS) (00095)	PH (STANDARD UNITS) (00400)	TEMPERATURE (DEG C) (00010)	TURBIDITY (NTU) (00076)	OXYGEN, DISSOLVED (MG/L) (00300)	OXYGEN, DISSOLVED (PERCENT SATURATION) (00301)	COLIFORM, FECAL, 0.7 UM-MF (COLS./100 ML) (31625)	STREPTOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)
OCT										
05...	1030	57800	805	8.3	20.0	17	8.2	89	440	440
NOV										
16...	1000	80100	570	8.0	9.5	40	11.0	95	1100	1800
DEC										
21...	1430	73300	490	7.9	.5	8.9	13.0	88	1200	600
JAN										
17...	1030	65400	605	7.9	.5	7.5	13.4	90	170	210
FEB										
22...	1900	102000	534	8.1	4.5	170	12.2	93	1600	18000
MAR										
20...	1000	269000	341	7.9	4.0	290	10.4	79	4400	5600
APR										
18...	1000	227000	494	7.9	10.0	170	6.0	52	2000	8200
MAY										
09...	1000	215000	480	7.7	13.5	160	4.6	43	1000	2900
JUN										
19...	1030	246000	325	7.8	26.0	340	4.2	51	4200	6400
JUL										
17...	1230	137000	565	7.9	27.0	160	5.8	72	1100	230
AUG										
14...	1000	73300	750	8.0	26.5	13	5.8	71	140	K44
SEP										
18...	0945	69100	711	7.7	20.0	34	7.1	76	K350	88

DATE	HARDNESS (MG/L AS CACO3) (00900)	HARDNESS, NONCARBONATE (MG/L CACO3) (00902)	CALCIUM DISSOLVED (MG/L AS CA) (00915)	MAGNESIUM, DISSOLVED (MG/L AS MG) (00925)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	PERCENT SODIUM (00932)	SODIUM AD-SORPTION RATIO (00931)	POTASSIUM, DISSOLVED (MG/L AS K) (00935)	ALKALINITY FIELD (MG/L AS CACO3) (00410)	SULFATE DISSOLVED (MG/L AS SO4) (00945)
OCT										
05...	260	77	65	23	72	37	2	6.2	180	210
NOV										
16...	220	64	53	20	42	29	1	4.7	151	130
DEC										
21...	200	53	52	18	28	23	.9	3.8	151	91
JAN										
17...	230	67	59	20	42	28	1	4.7	163	120
FEB										
22...	190	34	49	17	31	25	1	5.2	159	97
MAR										
20...	140	37	35	12	16	20	.6	3.5	100	55
APR										
18...	200	55	53	16	21	18	.7	5.8	144	89
MAY										
09...	200	55	53	16	20	18	.6	5.3	144	84
JUN										
19...	130	17	38	8.9	13	17	.5	5.3	115	37
JUL										
17...	210	53	56	18	25	20	.8	7.2	162	110
AUG										
14...	260	93	65	23	63	34	2	5.4	164	190
SEP										
18...	230	72	56	22	66	38	2	5.6	159	190

K--Results based on colony count outside the acceptable range (non-ideal colony count).

06934500 MISSOURI RIVER AT HERMANN, MO--Continued

DATE	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)	FLUORIDE, DISSOLVED (MG/L AS F) (00950)	SILICA, DISSOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L) (70301)	SOLIDS, DISSOLVED (TONS PER AC-FT) (70303)	SOLIDS, DISSOLVED (TONS PER DAY) (70302)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N) (00631)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N) (00608)
OCT									
05...	22	.50	9.7	511	520	.70	79700	.53	.030
NOV									
16...	14	.30	10	372	370	.51	80500	1.2	.030
DEC									
21...	13	.30	9.1	307	310	.42	60800	..0	.030
JAN									
17...	20	.30	11	389	380	.53	68700	1.2	.170
FEB									
22...	17	.30	13	335	330	.46	92300	2.0	.180
MAR									
20...	11	.20	8.8	217	200	.30	152000	1.2	.120
APR									
18...	12	.30	11	314	290	.43	192000	2.5	.060
MAY									
09...	12	.30	10	304	290	.41	176000	2.5	.030
JUN									
19...	10	.40	9.0	200	190	.27	133600	.42	.090
JUL									
17...	13	.40	12	357	340	.49	132000	2.0	.030
AUG									
14...	22	.50	8.7	496	480	.67	98200	.82	<.010
SEP									
18...	17	.50	8.4	469	460	.64	87500	.57	.040

DATE	NITROGEN, AMMONIA DISSOLVED (MG/L AS NH4) (71846)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N) (00625)	PHOSPHORUS, TOTAL (MG/L AS P) (00665)	PHOSPHORUS TOTAL (MG/L AS PO4) (71886)	PHOSPHORUS, DISSOLVED (MG/L AS P) (00666)	PHOSPHORUS, ORTHO, DISSOLVED (MG/L AS P) (00671)	SEDIMENT, SUSPENDED (MG/L) (80154)	SEDIMENT, DISCHARGE, SUSPENDED (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
OCT									
05...	.04	1.4	.140	.43	.050	.070	357	55700	34
NOV									
16...	.04	1.4	.180	.55	.070	.060	123	26600	94
DEC									
21...	.10	.50	.070	.21	.050	.040	56	11100	83
JAN									
17...	.22	.70	.080	.25	.060	.040	57	10100	83
FEB									
22...	.23	2.3	.560	1.8	.090	<.010	152	41900	83
MAR									
20...	.15	5.5	.720	2.2	.040	.050	1360	955000	94
APR									
18...	.08	2.2	.810	2.5	.110	.090	1070	656000	83
MAY									
09...	.04	2.5	.230	.71	.080	.010	764	444000	89
JUN									
19...	.12	5.0	.600	--	.050	.040	1690	1120000	78
JUL									
17...	.04	2.0	.300	--	.140	.140	411	152000	94
AUG									
14...	--	.90	.190	--	.120	.100	79	15600	86
SEP									
18...	.05	.80	.220	--	.100	.110	--	--	--

DATE	ALUMINUM, DISSOLVED (UG/L AS AL) (01106)	ARSENIC DISSOLVED (UG/L AS AS) (01000)	BARIUM, DISSOLVED (UG/L AS BA) (01005)	BERYLLIUM, DISSOLVED (UG/L AS BE) (01010)	CADMIUM DISSOLVED (UG/L AS CD) (01025)	CHROMIUM, DISSOLVED (UG/L AS CR) (01030)	COBALT, DISSOLVED (UG/L AS CO) (01035)	COPPER, DISSOLVED (UG/L AS CU) (01040)	IRON, DISSOLVED (UG/L AS FE) (01046)	LEAD, DISSOLVED (UG/L AS PB) (01049)
NOV										
16...	<10	2	94	<.5	<1	<1	<3	<1	16	1
JAN										
17...	10	3	97	<.5	<1	<1	<3	<1	11	<1
MAY										
09...	40	2	110	<.5	<1	<1	<3	7	49	<1
JUL										
17...	40	3	110	1.0	<1	<1	3	3	17	4

06934500 MISSOURI RIVER AT HERMANN, MO--Continued

DATE	LITHIUM DIS-SOLVED (UG/L AS LI) (01130)	MANGANESE, DIS-SOLVED (UG/L AS MN) (01056)	MERCURY DIS-SOLVED (UG/L AS HG) (71890)	MOLYBDENUM, DIS-SOLVED (UG/L AS MO) (01060)	NICKEL, DIS-SOLVED (UG/L AS NI) (01065)	SELENIUM, DIS-SOLVED (UG/L AS SE) (01145)	SILVER, DIS-SOLVED (UG/L AS AG) (01075)	STRONTIUM, DIS-SOLVED (UG/L AS SR) (01080)	VANADIUM, DIS-SOLVED (UG/L AS V) (01085)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)
NOV										
16...	44	5	<.1	<10	8	1	<1	390	<6	10
JAN										
17...	28	8	<.1	<10	4	1	<1	390	<6	14
MAY										
09...	21	5	<.1	<10	7	2	<1	280	<6	12
JUL										
17...	7	<1	<.1	<10	3	<1	<1	210	<6	6

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20.5			1.0	3.0	5.0	9.5	15.5	19.5	25.5	27.5	26.0
2	21.0			1.0	5.0	5.5	8.5	14.0	20.0	25.5	27.0	26.0
3	21.0			3.0	3.0	5.0	9.0	15.0	21.0	26.0	28.0	25.5
4	21.0			3.0	3.5	5.5	8.0	14.0	21.0	25.0	28.0	25.5
5	20.5			3.5	.0	5.0	9.0	13.0	23.0	25.0	28.5	25.0
6	20.5			2.0	1.0	5.0	10.0	13.0	21.0	25.0	28.5	25.0
7	20.5			4.0	2.0	6.0	9.0	14.0	23.0	25.0	28.5	25.0
8	19.0			1.0	3.0	4.0	8.0	15.0	23.5	25.5	28.0	24.5
9	18.0			1.0	3.0	5.0	9.0	15.0	24.0	25.5	28.0	24.5
10	20.0			1.0	5.0	4.0	9.5	16.0	24.0	27.0	27.5	24.0
11	19.5			1.0	7.0	3.5	10.0	16.0	23.0	26.0	28.0	24.0
12	18.0			1.0	4.5	3.0	10.5	16.0	24.0	26.5	28.5	24.0
13	17.0			1.0	6.5	3.0	10.0	17.0	24.0	27.0	29.0	22.5
14	18.0			.5	7.0	4.5	12.0	17.0	24.5	28.5	28.5	23.0
15	17.0			1.0	8.0	9.0	11.0	17.0	25.0	27.5	28.5	23.0
16	17.0			.0	6.5	9.0	11.0	17.5	26.0	27.0	28.5	22.5
17	16.0			.5	7.5	4.5	12.0	18.0	26.0	27.0	28.5	22.0
18	15.5			.0	7.5	5.0	12.0	19.0	26.5	27.0	29.0	21.5
19	15.5			2.5	5.0	5.0	12.0	18.5	27.0	27.5	28.0	22.0
20	15.0			.5	6.0	3.0	11.0	20.5	26.5	28.0	27.0	21.5
21	15.0			1.0	3.5	4.5	11.5	21.0	27.0	27.0	27.0	21.5
22	14.0			1.0	7.5	7.0	11.0	21.0	27.5	27.5	27.5	21.0
23	13.0			2.5	7.5	6.5	10.5	21.5	28.0	27.0	28.0	21.0
24	14.0			2.5	5.0	6.0	12.5	22.0	25.0	27.0	27.5	20.5
25	14.0			3.0	7.0	6.0	13.5	21.0	27.0	27.5	28.0	20.0
26	14.5			5.0	5.0	6.5	14.0	21.0	26.0	28.0	27.5	19.0
27	14.5			2.5	5.0	8.0	15.0	20.5	25.5	28.0	28.0	19.0
28	15.0			3.0	5.0	8.0	16.0	19.5	27.0	28.0	29.0	19.0
29	14.0			3.0	5.0	7.5	15.0	19.5	25.5	26.0	29.0	18.0
30	14.0			3.0	---	7.0	14.5	19.0	25.0	27.0	28.5	17.0
31	14.0			3.0	---	7.0	---	20.0	---	27.0	27.5	---
MEAN	17.0			2.0	5.0	5.5	11.0	17.5	24.5	26.5	28.0	22.5
MAX	21.0			5.0	8.0	9.0	16.0	22.0	28.0	28.5	29.0	26.0
MIN	13.0			.0	.0	3.0	8.0	13.0	19.5	25.0	27.0	17.0

06934500 MISSOURI RIVER AT HERMANN, MO--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG C), WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	785			80[illegible]	775	540	470	515	585	492	770	779
2	795			790	730	530	470	500	620	498	765	795
3	795			800	695	535	465	455	630	484	760	799
4	800			820	675	465	470	435	545	478	745	798
5	805			810	680	405	450	445	640	490	780	788
6	800			805	695	485	440	475	650	465	795	780
7	805			810	640	525	425	500	685	440	760	780
8	810			805	655	555	420	530	705	472	775	773
9	800			800	630	560	429	565	715	441	775	75[illegible]
10	785			780	615	595	435	520	475	467	785	757
11	780			750	635	620	410	565	530	500	800	770
12	780			760	625	625	425	550	365	479	795	753
13	780			720	625	600	440	555	340	524	790	752
14	785			745	590	630	445	550	365	539	785	746
15	785			750	625	605	425	565	385	555	745	743
16	775			705	620	540	460	540	390	596	765	777
17	775			740	610	540	490	515	350	528	795	747
18	770			680	590	500	500	555	375	577	800	732
19	765			710	565	455	495	565	345	581	810	761
20	760			705	595	420	525	595	335	572	810	782
21	735			740	590	405	455	580	375	608	815	790
22	725			765	565	385	440	565	390	630	815	781
23	680			790	545	405	470	570	360	620	795	776
24	685			810	530	425	455	515	395	641	825	781
25	720			735	545	460	460	505	395	653	815	788
26	720			685	560	440	455	520	450	675	830	776
27	720			705	590	460	450	530	415	675	830	771
28	720			725	585	455	470	540	465	709	825	776
29	715			750	580	425	490	545	475	690	805	777
30	700			740	---	420	480	540	460	726	800	776
31	700			740	---	420	---	550	---	755	795	---
MEAN	760			757	619	496	457	531	472	566	792	772
MAX	810			820	775	630	525	595	715	755	830	799
MIN	680			680	530	385	410	435	335	440	745	732

BEST COPY AVAILABLE

07010000 MISSISSIPPI RIVER AT ST. LOUIS, MO

LOCATION.--Lat 38°37'44", long 90°10'47", Hydrologic Unit 07140101, on downstream side of west pier of Eads Bridge at St. Louis, 15 mi downstream from Missouri River, 19.2 mi upstream from Meramec River, and at mile 180.0 above the Ohio River.

DRAINAGE AREA.--697,000 mi², approximately.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--Discharge: January 1861 to current year. Monthly discharge only for some periods, published in WSP 1311.

Gage heights: March 1933 to current year in reports of Geological Survey. Since January 1861 in reports of Mississippi River Commission. Since January 1890 in reports of National Weather Service.

REVISED RECORDS.--WDR MO-76-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 379.94 ft National Geodetic Vertical Datum of 1929. Prior to May 5, 1934, nonrecording gage 0.4 mi downstream and May 5, 1934, to Dec. 9, 1952, water-stage recorder at site 20 ft downstream at present datum.

REMARKS.--Records good. Natural flow of stream affected by many reservoirs and navigation dams in upper Mississippi River basin and by many reservoirs and diversions for irrigation in Missouri River basin.

AVERAGE DISCHARGE.--123 years, 179,100 ft³/s, 129,800,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 1,019,000 ft³/s June 10, 11, 1903, gage height, 38.00 ft; maximum gage height, 43.23 ft Apr. 28, 1973; minimum daily discharge, 18,000 ft³/s Dec. 21-23, 1863.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 27, 1844, reached a stage of 41.32 ft, from floodmarks, discharge, 1,300,000 ft³/s, computed by Corps of Engineers. Flood in April 1785 may have reached a stage 42.0 ft.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 579,000 ft³/s Apr. 24, maximum gage height, 34.02 ft Apr. 24; minimum, 90,000 ft³/s Sept. 7.

DISCHARGE (CUBIC FEET/SECOND) WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	164000	148000	340000	119000	131000	358000	446000	461000	408000	471000	186000	120000
2	157000	148000	326000	115000	145000	359000	425000	464000	396000	463000	179000	115000
3	142000	158000	309000	116000	174000	359000	415000	473000	387000	460000	169000	109000
4	134000	199000	312000	118000	172000	371000	442000	479000	379000	459000	171000	99100
5	129000	256000	326000	122000	157000	412000	461000	488000	364000	461000	175000	99000
6	127000	251000	322000	125000	149000	425000	481000	499000	350000	466000	166000	98800
7	117000	224000	299000	131000	154000	405000	494000	507000	337000	467000	158000	99700
8	113000	202000	271000	141000	153000	388000	495000	502000	321000	465000	153000	106000
9	113000	190000	231000	147000	156000	366000	494000	492000	305000	461000	160000	122000
10	112000	178000	195000	164000	156000	334000	498000	484000	345000	450000	173000	121000
11	112000	167000	214000	166000	156000	304000	504000	477000	412000	432000	165000	146000
12	116000	182000	254000	165000	160000	269000	507000	469000	449000	407000	162000	159000
13	106000	199000	287000	174000	176000	257000	507000	466000	469000	384000	165000	135000
14	118000	191000	276000	169000	199000	237000	502000	463000	483000	361000	165000	124000
15	118000	181000	267000	166000	225000	224000	499000	461000	485000	350000	156000	129000
16	121000	169000	241000	164000	251000	266000	495000	462000	480000	335000	163000	129000
17	127000	159000	218000	158000	262000	329000	482000	457000	473000	331000	158000	139000
18	138000	174000	197000	152000	286000	371000	470000	445000	470000	331000	145000	144000
19	135000	176000	169000	147000	304000	387000	459000	427000	467000	326000	143000	128000
20	152000	178000	150000	140000	328000	451000	452000	408000	463000	314000	145000	117000
21	169000	181000	149000	131000	334000	479000	460000	398000	458000	305000	138000	114000
22	176000	176000	140000	125000	335000	470000	515000	405000	456000	298000	129000	111000
23	185000	203000	132000	120000	336000	448000	558000	422000	458000	288000	134000	127000
24	188000	270000	125000	117000	333000	431000	575000	433000	464000	277000	132000	120000
25	182000	306000	124000	112000	327000	443000	568000	436000	472000	262000	128000	112000
26	182000	283000	113000	116000	325000	455000	551000	430000	479000	254000	120000	107000
27	182000	285000	112000	116000	332000	454000	532000	425000	483000	254000	109000	113000
28	182000	313000	113000	129000	340000	469000	503000	415000	483000	256000	108000	122000
29	178000	348000	109000	132000	349000	476000	482000	409000	481000	226000	102000	114000
30	169000	318000	117000	131000	---	473000	471000	415000	477000	204000	114000	112000
31	160000	---	120000	126000	---	465000	---	417000	---	185000	124000	---
TOTAL	4504000	6435000	6558000	4254000	6905000	11945000	14743000	13983000	12954000	11003000	4595000	3591600
MEAN	145300	214500	211500	137200	238100	385300	491400	451100	431800	354900	148200	119700
MAX	188000	348000	340000	174000	349000	479000	575000	507000	485000	471000	186000	159000
MIN	106000	148000	109000	112000	131000	224000	415000	398000	305000	185000	102000	98800

CAL YR 1983 TOTAL 98936500 MEAN 271100 MAX 713000 MIN 89200
WTR YR 1984 TOTAL 101470600 MEAN 277200 MAX 575000 MIN 98800

07010000 MISSISSIPPI RIVER AT ST. LOUIS, MO--Continued

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984
INSTANTANEOUS OBSERVATIONS AT 0800

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.80	8.51	21.11	5.45	6.37	21.70	27.42	29.12	27.35	30.01	12.15	6.09
2	9.84	8.41	21.12	5.13	7.31	21.84	26.36	29.20	26.62	29.65	11.55	5.51
3	8.07	8.94	20.16	5.11	10.01	21.77	25.65	29.66	26.02	29.45	10.73	4.81
4	7.58	11.92	20.01	5.16	9.97	22.15	27.19	29.99	25.52	29.47	10.84	3.53
5	6.50	16.54	20.94	5.50	8.95	24.42	28.14	30.41	24.64	29.52	11.12	3.45
6	6.53	16.96	20.82	5.93	8.12	25.59	29.19	30.95	23.75	29.81	10.72	3.63
7	6.37	14.82	19.86	6.21	8.65	24.47	29.83	31.48	23.01	29.95	9.26	2.89
8	5.63	12.95	18.13	6.92	8.32	23.48	29.93	31.21	22.08	29.87	8.98	4.06
9	5.46	12.22	15.78	7.64	8.66	22.34	29.92	30.75	20.90	29.70	9.26	5.43
10	5.46	11.21	12.32	8.47	8.51	20.50	30.13	30.34	22.21	29.30	10.65	5.44
11	5.46	9.90	13.69	9.28	8.60	18.81	30.39	29.97	26.40	28.41	9.88	7.24
12	5.76	10.94	15.93	8.99	8.65	16.64	30.53	29.55	28.42	26.82	9.63	8.54
13	4.29	12.54	18.95	10.09	9.79	15.71	30.52	29.40	29.52	25.62	9.54	6.99
14	6.43	12.20	18.36	9.83	11.78	14.61	30.38	29.19	30.31	24.00	9.97	5.53
15	6.03	11.43	17.49	9.28	13.84	12.82	30.21	29.16	30.50	23.35	8.97	6.20
16	5.98	10.51	16.05	9.21	15.98	15.28	30.11	29.30	30.31	22.73	9.65	5.85
17	6.45	8.72	14.33	8.87	16.22	19.27	29.49	29.18	29.96	22.31	9.41	6.54
18	7.59	10.59	12.52	8.28	18.02	21.83	28.92	28.69	29.75	22.33	8.39	7.51
19	7.11	10.66	10.51	8.20	18.69	22.19	28.40	27.85	29.64	22.07	7.98	6.35
20	8.69	10.67	8.35	7.25	20.26	25.55	28.11	26.86	29.47	21.36	8.18	5.23
21	9.87	11.30	8.49	6.56	20.72	27.54	28.10	26.22	29.20	20.75	7.76	4.99
22	10.76	10.43	7.73	6.86	20.70	27.37	30.84	26.59	29.00	20.31	6.86	4.33
23	11.32	12.26	6.75	5.64	20.80	26.42	32.92	27.53	29.10	19.77	7.31	5.97
24	11.86	16.77	6.27	5.23	20.62	25.37	33.86	28.39	29.45	19.08	7.00	5.51
25	11.09	19.80	6.20	4.89	20.27	26.19	33.75	28.38	29.82	18.13	7.02	4.93
26	11.22	18.76	5.16	4.96	20.06	26.80	33.10	28.35	30.28	17.53	6.07	4.22
27	11.36	18.12	4.70	6.23	20.43	27.51	32.39	28.26	30.49	17.14	5.25	4.78
28	11.25	19.00	5.19	6.20	20.82	27.69	31.26	27.88	30.53	17.55	5.01	5.76
29	11.05	21.76	4.50	6.60	21.17	28.43	30.22	27.50	30.47	15.45	4.31	5.58
30	10.31	22.16	4.98	6.62	---	28.42	29.65	27.72	30.24	13.68	5.33	4.59
31	9.50	---	5.38	5.92	---	28.22	---	27.87	---	12.15	6.52	---
MEAN	8.21	13.37	12.96	6.98	14.22	22.93	29.90	28.93	27.83	23.46	8.56	5.38
MAX	11.86	22.16	21.12	10.09	21.17	28.43	33.86	31.48	30.53	30.01	12.15	8.54
MIN	4.20	8.41	4.50	4.89	6.37	12.82	25.65	26.22	20.90	12.15	4.31	2.89

CAL YR 1983	MEAN	16.55	MAX	38.84	MIN	3.17
WTR YR 1984	MEAN	16.88	MAX	33.86	MIN	2.89

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07010000 MISSISSIPPI RIVER AT ST. LOUIS, MO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--
WATER TEMPERATURES: October 1951 to current year.
SEDIMENT RECORDS: April 1948 to current year.

REMARKS.--Sediment discharge for many days computed from turbidity readings.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SEDIMENT CONCENTRATIONS: Maximum daily mean, 6,420 mg/L June 7, 1951; minimum daily mean, 19 mg/L January 21, 22, 1967.
SEDIMENT LOADS: Maximum daily, 7,010,000 tons May 5, 1951; minimum daily, 2,800 tons January 21, 1967.

EXTREMES FOR CURRENT YEAR.--
SEDIMENT CONCENTRATIONS: Maximum daily mean, 3,120 mg/L June 13; minimum daily mean, 71 mg/L August 13.
SEDIMENT LOADS: Maximum daily, 3,950,000 tons June 13; minimum daily, 32,000 tons August 13.

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	14.0	---	---	---	---	---	15.0	---	---	---	---
2	---	---	---	---	---	---	---	---	---	---	---	---
3	---	---	---	2.0	---	---	8.0	---	---	---	---	---
4	19.5	---	---	---	---	---	---	---	---	---	---	---
5	---	---	---	---	---	---	---	---	---	---	---	---
6	---	---	---	---	---	3.5	---	---	---	---	---	24.0
7	---	---	---	---	---	---	---	---	---	---	27.0	---
8	---	---	---	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---	---	---	---
10	---	---	---	---	2.5	---	---	---	---	27.0	---	---
11	---	---	---	---	---	---	---	---	---	---	---	---
12	---	---	---	---	---	---	---	---	25.0	---	---	---
13	---	---	2.0	---	---	---	---	---	---	---	---	---
14	---	---	---	---	---	---	---	16.0	---	---	---	---
15	---	8.5	---	---	---	---	---	---	---	---	---	---
16	---	---	---	---	4.0	---	11.0	16.0	---	---	---	---
17	15.5	---	---	---	---	---	---	---	---	---	---	20.0
18	---	---	---	---	---	---	---	---	26.0	---	---	---
19	---	---	---	---	---	---	---	---	---	---	---	---
20	---	---	---	---	---	3.0	---	---	---	---	---	---
21	---	---	---	---	---	---	---	---	---	---	27.0	---
22	---	---	---	---	5.0	---	---	---	---	---	---	---
23	---	---	---	---	---	---	---	---	---	27.5	---	---
24	---	---	---	1.0	---	---	---	---	---	28.0	---	---
25	---	---	---	---	---	---	---	---	---	---	---	---
26	---	---	---	---	---	---	---	---	26.0	---	---	19.0
27	---	---	---	---	---	---	---	---	---	---	---	---
28	---	---	---	---	---	---	---	---	---	---	---	---
29	---	---	---	---	---	---	---	18.0	---	---	---	---
30	---	---	---	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---
MEAN	---	---	---	---	---	---	---	---	---	---	---	---
MAX	---	---	---	---	---	---	---	---	---	---	---	---
MIN	---	---	---	---	---	---	---	---	---	---	---	---

07010000 MISSISSIPPI RIVER AT ST. LOUIS, MO--Continued

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT

DATE	STREAM-FLOW, INSTAN-TANEOUS (CFS) (00061)	SED. SUSP. FALL DIAM. % FINER THAN .002 MM (70337)	SED. SUSP. FALL DIAM. % FINER THAN .004 MM (70338)	SED. SUSP. FALL DIAM. % FINER THAN .008 MM (70339)	SED. SUSP. FALL DIAM. % FINER THAN .016 MM (70340)	SED. SUSP. FALL DIAM. % FINER THAN .062 MM (70342)	SED. SUSP. FALL DIAM. % FINER THAN .125 MM (70343)	SED. SUSP. FALL DIAM. % FINER THAN .250 MM (70344)	SED. SUSP. FALL DIAM. % FINER THAN .500 MM (70345)	SED. SUSP. FALL DIAM. % FINER THAN 1.00 MM (70346)
OCT , 1983										
18...	140000	--	--	--	--	78	88	98	100	100
FEB , 1984										
16...	242000	20	23	26	34	50	56	99	100	100
MAR										
20...	342000	41	44	51	57	67	71	90	98	100
APR										
16...	495000	38	41	44	50	81	87	93	99	100
MAY										
16...	462000	36	38	42	50	81	90	96	99	100
JUN										
18...	470000	--	--	--	--	94	97	99	100	--
18...	470000	41	45	--	57	85	92	99	100	--
18...	470000	--	--	--	--	79	87	97	100	--
18...	470000	54	60	--	73	92	95	99	100	--
18...	470000	51	55	--	68	89	94	98	100	100
18...	470000	51	56	--	66	89	94	98	100	--
18...	470000	52	57	--	69	90	96	99	100	--
18...	470000	51	56	--	69	87	95	99	100	--
18...	470000	53	58	--	71	90	97	98	100	--
18...	470000	50	51	--	66	86	97	100	--	--
JUL										
23...	301000	43	47	51	58	82	92	99	100	--

PARTICLE-SIZE DISTRIBUTION OF SURFACE BED MATERIAL

DATE	BED MAT. SIEVE DIAM. % FINER THAN .062 MM (80164)	BED MAT. SIEVE DIAM. % FINER THAN .125 MM (80165)	BED MAT. SIEVE DIAM. % FINER THAN .250 MM (80166)	BED MAT. SIEVE DIAM. % FINER THAN .500 MM (80167)	BED MAT. SIEVE DIAM. % FINER THAN 1.00 MM (80168)	BED MAT. SIEVE DIAM. % FINER THAN 2.00 MM (80169)	BED MAT. SIEVE DIAM. % FINER THAN 4.00 MM (80170)	BED MAT. SIEVE DIAM. % FINER THAN 8.00 MM (80171)	BED MAT. SIEVE DIAM. % FINER THAN 16.0 MM (80172)	BED MAT. SIEVE DIAM. % FINER THAN 32.0 MM (80173)
OCT , 1983										
18...	0	2	20	30	56	71	77	84	98	100
FEB , 1984										
16...	0	0	56	96	100	100	--	--	--	--
JUL										
23...	0	1	8	27	68	88	96	99	99	100
SEP										
26...	1	8	25	34	69	86	93	96	100	--

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07010000 MISSISSIPPI RIVER AT ST. LOUIS, MO--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		OCTOBER			NOVEMBER			DECEMBER	
1	164000	186	82000	148000	131	52000	340000	715	656000
2	157000	219	93000	148000	125	50000	326000	550	484000
3	142000	183	70000	158000	124	53000	309000	592	494000
4	134000	170	62000	199000	151	81000	312000	517	436000
5	129000	171	60000	256000	512	354000	326000	508	447000
6	127000	196	67000	251000	556	377000	322000	579	503000
7	116000	171	54000	224000	570	345000	299000	543	438000
8	113000	175	53000	202000	383	209000	271000	383	280000
9	113000	152	46000	190000	359	184000	231000	329	205000
10	112000	167	51000	178000	312	150000	195000	291	153000
11	112000	166	50000	167000	244	110000	214000	557	322000
12	116000	160	50000	182000	184	90000	254000	354	243000
13	106000	198	57000	199000	153	82000	267000	406	315000
14	118000	177	56000	191000	178	92000	276000	473	352000
15	118000	178	57000	181000	204	100000	267000	702	506000
16	121000	153	50000	169000	233	106000	241000	760	495000
17	127000	163	56000	159000	219	94000	218000	618	364000
18	138000	253	94000	174000	191	90000	197000	507	270000
19	135000	240	88000	176000	183	87000	169000	275	127000
20	152000	270	111000	178000	191	92000	150000	254	103000
21	169000	226	103000	181000	222	108000	149000	203	82000
22	176000	340	162000	176000	168	80000	140000	194	73000
23	185000	250	125000	200000	213	115000	132000	166	59000
24	188000	206	105000	270000	232	169000	125000	146	49000
25	183000	402	199000	306000	409	338000	124000	229	77000
26	182000	286	141000	283000	435	332000	113000	282	86000
27	182000	263	129000	285000	422	325000	112000	234	71000
28	182000	245	120000	313000	530	448000	113000	225	69000
29	178000	151	73000	343000	520	482000	109000	237	70000
30	169000	147	67000	348000	591	555000	117000	302	95000
31	160000	146	63000	---	---	---	120000	223	72000
TOTAL	4564000	---	2594000	6435000	---	5750000	6558000	---	7996000
		JANUARY			FEBRUARY			MARCH	
1	119000	202	65000	131000	172	61000	358000	431	417000
2	115000	200	62000	145000	157	62000	359000	425	412000
3	116000	198	62000	174000	174	82000	359000	540	523000
4	118000	200	64000	172000	243	113000	371000	372	373000
5	122000	150	49000	157000	245	104000	412000	434	483000
6	125000	262	88000	149000	243	98000	425000	684	785000
7	131000	273	97000	154000	234	97000	405000	740	809000
8	141000	298	113000	153000	250	103000	388000	371	389000
9	147000	280	111000	156000	226	95000	356000	447	442000
10	164000	421	186000	156000	363	153000	334000	362	326000
11	166000	346	155000	156000	364	153000	304000	167	137000
12	165000	299	133000	160000	338	146000	269000	277	201000
13	174000	294	138000	176000	490	233000	257000	234	162000
14	169000	262	120000	199000	498	268000	237000	148	95000
15	166000	239	107000	225000	463	281000	224000	160	97000
16	164000	198	88000	251000	432	293000	266000	378	271000
17	158000	232	99000	262000	462	327000	329000	714	634000
18	152000	221	91000	286000	740	571000	371000	1050	1050000
19	147000	212	84000	304000	737	605000	387000	1530	1600000
20	140000	217	82000	328000	783	693000	451000	1520	1850000
21	131000	195	69000	334000	1160	1050000	479000	1750	2260000
22	125000	180	61000	335000	708	640000	470000	1820	2310000
23	120000	204	66000	336000	656	595000	448000	1420	1720000
24	117000	226	71000	333000	722	649000	431000	1450	1690000
25	112000	179	54000	327000	699	617000	443000	1070	1280000
26	116000	157	49000	325000	601	527000	455000	1130	1390000
27	116000	180	56000	332000	614	550000	464000	1510	1890000
28	129000	136	47000	340000	514	472000	469000	1940	2460000
29	132000	133	47000	349000	459	433000	476000	2510	3230000
30	131000	128	45000	---	---	---	473000	2080	2660000
31	126000	180	61000	---	---	---	465000	2080	2610000
TOTAL	4254000	---	2620000	6905000	---	10071000	11945000	---	34556000

07010000 MISSISSIPPI RIVER AT ST. LOUIS, MO--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		APRIL			MAY			JUNE	
1	446000	1500	1810000	461000	577	718000	408000	1170	1290000
2	425000	946	1090000	464000	530	664000	396000	893	955000
3	415000	743	833000	473000	1450	1850000	387000	601	628000
4	442000	1100	1310000	479000	1640	2120000	379000	407	416000
5	461000	1420	1770000	488000	1940	2560000	364000	352	346000
6	481000	837	1090000	499000	1450	1950000	350000	380	359000
7	494000	979	1310000	507000	1450	1980000	337000	385	350000
8	495000	1040	1390000	502000	1000	1360000	321000	390	338000
9	494000	1630	2170000	492000	841	1120000	305000	470	387000
10	498000	848	1140000	484000	791	1030000	345000	691	644000
11	504000	1080	1470000	477000	637	820000	412000	1240	1380000
12	507000	955	1310000	469000	572	724000	449000	2960	3590000
13	507000	862	1180000	466000	535	673000	469000	3120	3950000
14	502000	790	1070000	463000	484	605000	483000	1880	2450000
15	499000	580	781000	461000	443	551000	485000	1540	2020000
16	495000	883	1180000	462000	567	707000	480000	1290	1670000
17	482000	879	1140000	457000	537	663000	473000	1300	1660000
18	470000	571	725000	445000	607	729000	470000	1040	1320000
19	459000	446	553000	427000	395	455000	467000	998	1260000
20	452000	480	586000	408000	435	479000	463000	2060	2580000
21	460000	511	635000	398000	344	370000	458000	1030	1270000
22	515000	886	1230000	405000	512	560000	456000	1110	1370000
23	558000	841	1270000	422000	748	852000	458000	968	1200000
24	575000	1190	1850000	433000	844	987000	464000	588	737000
25	568000	885	1360000	430000	945	1100000	472000	588	711000
26	551000	753	1120000	430000	991	1150000	479000	692	895000
27	532000	838	1200000	425000	587	674000	483000	648	845000
28	503000	699	949000	415000	573	642000	483000	660	861000
29	482000	524	682000	409000	804	888000	481000	655	851000
30	471000	609	774000	415000	508	569000	477000	538	693000
31	---	---	---	417000	945	1060000	---	---	---
TOTAL	14743000	---	34978000	13983000	---	30610000	12954000	---	37026000
		JULY			AUGUST			SEPTEMBER	
1	471000	775	986000	186000	658	330000	120000	163	53000
2	463000	841	1050000	179000	351	170000	115000	150	47000
3	460000	1000	1240000	169000	236	108000	109000	144	42000
4	459000	620	768000	171000	244	113000	99100	189	51000
5	461000	604	752000	175000	198	94000	99000	142	38000
6	466000	587	739000	166000	208	93000	98800	153	41000
7	467000	488	615000	158000	216	92000	99700	150	40000
8	465000	1010	1270000	153000	166	69000	106000	147	42000
9	461000	1130	1410000	160000	131	57000	122000	173	57000
10	450000	607	738000	173000	116	54000	121000	176	58000
11	432000	827	965000	165000	101	45000	146000	267	105000
12	407000	904	993000	162000	92	40000	159000	553	237000
13	384000	652	676000	165000	71	32000	135000	615	224000
14	361000	567	553000	165000	77	34000	124000	206	69000
15	350000	580	548000	156000	80	34000	129000	178	62000
16	335000	495	448000	163000	88	39000	129000	159	55000
17	331000	444	397000	158000	87	37000	139000	141	53000
18	331000	738	660000	145000	96	37000	144000	132	51000
19	326000	857	574000	143000	107	41000	128000	111	38000
20	314000	674	571000	145000	93	36000	117000	156	49000
21	305000	592	488000	138000	96	36000	114000	157	48000
22	298000	443	356000	129000	111	39000	111000	131	45000
23	288000	383	298000	134000	120	43000	127000	147	50000
24	277000	384	287000	132000	128	46000	120000	149	48000
25	262000	494	349000	128000	129	45000	112000	179	54000
26	254000	430	295000	120000	137	44000	107000	161	47000
27	254000	363	249000	109000	141	42000	113000	179	55000
28	256000	345	238000	108000	167	49000	122000	212	70000
29	226000	556	339000	102000	152	42000	114000	184	57000
30	204000	583	321000	114000	146	45000	112000	164	50000
31	185000	552	276000	124000	153	51000	---	---	---
TOTAL	11003000	---	19449000	4595000	---	2037000	3591600	---	1936000
YEAR	101470600		189623000						

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07010500 MARAMEC SPRING NEAR ST. JAMES, MO

LOCATION.--Lat 37°57'20", long 91°32'57", in NW¼SE¼ sec.1, T.37 N., R.6 W., Phelps County, Hydrologic Unit 07140102, 650 ft downstream from spring outlet, 1 mi upstream from Meramac River, and 6 mi southeast of St. James.

PERIOD OF RECORD.--March 1903 to July 1906, November 1921 to October 1929, October 1965 to current year. Monthly discharge only for some months prior to October 1905 published in WSP 1311. Occasional discharge measurements 1930, 1932, 1943, 1939-40, 1946, 1953-55, 1957, 1961-65.

GAGE.--Nonrecording gage. Datum of gage is 773.97 ft National Geodetic Vertical Datum of 1929. Prior to Nov. 11, 1921, gage at site 150 ft upstream at different datum. Nov. 11, 1921, to June 4, 1938, at site 50 ft upstream at datum 0.21 ft higher.

REMARKS.--Records poor. Several observations of water temperature and specific conductance were made during the year. Occasional backwater from Meramec River.

AVERAGE DISCHARGE.--28 years (1903-05, 1922-29, 1965-84), 151 ft³/s, 109,400 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 770 ft³/s, Dec. 6, 1982, estimated during period of backwater from Meramec River; minimum measured, 56 ft³/s Aug. 1, 1934.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 497 ft³/s Nov. 4; minimum daily, 100 ft³/s Oct. 13-16, 19.

DISCHARGE (CUBIC FEET/SECOND) WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	111	108	238	138	150	163	387	283	176	159	131	121
2	108	121	227	138	159	172	369	272	176	159	125	121
3	108	306	217	131	154	167	398	260	172	159	131	121
4	108	497	375	131	150	404	422	260	167	159	131	121
5	121	422	352	128	159	466	410	249	167	238	131	115
6	121	387	317	145	150	398	387	288	167	212	131	115
7	108	352	283	145	141	375	375	306	163	185	131	108
8	104	283	249	163	141	352	352	317	163	176	131	115
9	115	249	227	163	154	317	387	306	159	167	131	167
10	108	238	206	154	141	294	375	283	159	159	134	176
11	104	227	283	154	185	272	352	272	159	159	134	159
12	104	206	329	154	311	260	340	260	154	159	125	196
13	100	206	306	145	352	249	340	260	167	159	125	176
14	100	196	306	138	317	249	329	249	163	159	125	159
15	100	167	306	138	306	249	335	249	172	159	121	141
16	100	159	277	138	260	260	329	238	167	159	121	141
17	104	150	249	145	249	283	329	227	167	159	121	134
18	102	150	249	145	238	346	329	217	167	159	121	134
19	100	141	222	141	227	429	317	217	167	154	121	128
20	233	398	212	141	212	435	306	217	163	163	121	128
21	381	352	201	134	185	404	340	217	159	163	118	128
22	369	306	190	141	176	387	447	217	159	163	118	128
23	323	364	190	141	167	364	447	206	159	159	128	150
24	277	410	181	141	167	398	410	217	159	159	128	150
25	222	375	181	141	167	435	375	206	159	159	121	150
26	181	329	172	150	167	410	364	206	159	150	128	163
27	185	306	163	159	159	387	352	201	159	145	128	167
28	172	306	154	159	159	375	317	201	159	145	128	159
29	154	294	154	159	159	435	311	185	159	145	128	154
30	138	272	145	159	---	398	294	181	159	138	128	141
31	141	---	145	159	---	375	---	181	---	138	128	---
TOTAL	4802	8277	7306	4518	5642	10508	10825	7448	4905	5026	3923	4266
MEAN	155	276	236	146	195	339	361	240	164	162	127	142
MAX	381	497	375	163	352	466	447	317	176	238	134	196
MIN	100	108	145	128	134	163	294	181	154	138	118	108

CAL YR 1983	TOTAL	70821	MEAN	194	MAX	600	MIN	91
WTR YR 1984	TOTAL	77446	MEAN	212	MAX	497	MIN	100

07013000 MERAMEC RIVER NEAR STEELVILLE, MO

LOCATION.--Lat 37°59'58", long 91°21'39", in NE¼ sec.21, T.38 N., R.4 W., Crawford County, Hydrologic Unit 07140102, on left bank 20 ft downstream from railroad bridge, 400 ft upstream from highway bridge, 0.8 mi upstream from Whittenburg Creek, 1.5 mi north of Steelville, and at mile 149.4.

DRAINAGE AREA.--781 mi².

PERIOD OF RECORD.--October 1922 to current year. Prior to January 1923 monthly discharges only, published in WSP 1311. Gage-height records for 1916-33 at site 1 mi upstream in reports of National Weather Service.

REVISED RECORDS.--WSP 897: 1939. WSP 1007: Drainage Area.

GAGE.--Water-stage recorder. Datum of gage is 681.68 ft National Geodetic Vertical Datum of 1929. Prior to May 24, 1934, July 20, 1966, to July 20, 1967, nonrecording gage, and May 24, 1934 to Oct. 10, 1942, water-stage recorder at site 400 ft downstream at present datum. July 21, 1967 to Feb. 13, 1973 at site 1,900 ft downstream and at datum 2.0 ft lower.

REMARKS.--Records good. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--62 years, 568 ft³/s, 9.88 in/yr, 411,500 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 49,300 ft³/s Dec. 4, 1982, gage height, 25.59 ft; minimum, 74 ft³/s July 22, 1934.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Aug. 20, 1915, reached a stage of 26.5 ft, discharge, 60,000 ft³/s.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 6,500 ft³/s and maximum (*):

Date	Time	Discharge (ft³/s)	Gage height (ft)
Nov. 4	1430	9,050	10.71
Nov. 24	1245	6,540	9.03
Mar. 5	0245	*9,380	10.92
Mar. 20	0130	8,170	10.12
Apr. 22	1915	6,800	9.21

Minimum discharge, 149 ft³/s Sept. 7, 8.

DISCHARGE (CUBIC FEET/SECOND) WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	172	247	879	350	289	387	1230	703	321	250	191	155
2	168	424	787	320	286	422	1080	661	310	243	191	153
3	169	2830	885	294	290	651	1860	633	296	243	189	155
4	186	7620	3920	292	293	4140	2730	602	288	275	188	154
5	244	3810	3020	316	292	7330	2670	581	277	662	190	155
6	307	1570	1570	407	269	2750	1860	966	278	587	191	153
7	257	1150	1200	445	251	1710	1310	1050	275	425	188	151
8	226	923	993	426	241	1370	1300	1140	270	350	186	159
9	203	779	855	414	244	1190	1650	1030	253	310	197	352
10	193	752	770	467	300	1070	1440	933	248	280	209	594
11	190	751	1670	464	610	997	1230	835	290	289	224	522
12	188	672	2520	414	1400	949	1120	744	314	274	202	2250
13	185	594	1730	379	1740	956	1080	667	281	270	194	985
14	184	534	1350	350	1220	987	945	599	282	259	187	589
15	183	479	1160	327	942	963	889	527	292	251	179	441
16	178	431	976	312	793	949	914	470	477	244	175	360
17	178	393	825	300	697	1130	878	434	421	242	175	306
18	178	365	728	290	626	1630	814	415	349	241	171	272
19	184	473	652	269	568	5610	750	402	311	236	168	246
20	1550	3150	586	253	515	4890	698	397	301	232	169	227
21	2990	2360	585	245	468	2140	1990	399	336	226	167	210
22	1890	1270	526	243	437	1480	5600	406	311	219	210	222
23	1190	2850	461	252	412	1200	4120	389	349	218	207	335
24	826	5400	435	259	390	1520	2130	366	335	213	201	793
25	632	2090	447	278	366	2810	1530	374	311	205	202	530
26	496	1350	393	305	355	2000	1260	472	293	203	186	661
27	412	1180	382	306	384	1490	1090	446	281	212	176	817
28	360	1420	374	307	401	2100	943	418	273	204	173	638
29	319	1300	330	307	392	3980	835	408	267	200	169	501
30	286	1050	370	311	---	2270	767	365	256	198	164	417
31	264	---	450	297	---	1500	---	338	---	197	158	---
TOTAL	14988	48217	31829	10199	15471	62571	46713	18170	9146	8458	5777	13503
MEAN	483	1607	1027	329	533	2018	1557	586	305	273	186	450
MAX	2990	7620	3920	467	1740	7330	5600	1140	477	662	224	2250
MIN	168	247	330	243	241	387	698	338	248	197	158	151

CAL YR 1983	TOTAL	300282	MEAN	823	MAX	22200	MIN	164
WTR YR 1984	TOTAL	285042	MEAN	779	MAX	7620	MIN	151

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07013000 MERAMEC RIVER NEAR STEELVILLE, MO--Continued

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984
INSTANTANEOUS OBSERVATIONS AT 0800

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.92	2.32	3.40	2.35	2.31	2.51	3.98	3.09	2.38	2.10	1.94	1.90
2	1.90	2.34	3.24	2.33	2.30	2.56	3.65	3.02	2.37	2.08	1.94	1.88
3	1.92	4.32	3.17	2.32	2.31	2.86	4.10	2.97	2.32	2.06	1.94	1.91
4	1.95	9.71	6.78	2.31	2.31	4.52	56.57	2.92	2.31	2.13	1.93	1.90
5	2.07	7.29	6.08	2.35	2.32	10.43	5.24	2.86	2.28	2.54	1.94	1.90
6	2.33	4.42	4.42	2.52	2.28	5.69	4.31	3.27	2.28	2.91	1.95	1.90
7	2.18	3.79	3.86	2.65	2.23	4.46	3.90	3.25	2.27	2.61	1.94	1.90
8	2.10	3.47	3.56	2.61	2.19	3.94	3.78	3.51	2.27	2.42	1.94	1.89
9	2.04	3.24	3.35	2.57	2.19	3.63	4.48	3.26	2.23	2.34	1.98	2.28
10	2.00	3.14	3.20	2.59	2.28	3.41	4.21	3.12	2.21	2.25	2.00	2.91
11	1.99	3.20	3.55	2.69	2.85	3.28	3.89	3.02	2.23	2.26	2.07	2.77
12	1.98	3.09	5.50	2.59	3.29	3.16	3.71	2.92	2.39	2.20	2.01	5.31
13	1.97	2.96	4.61	2.50	4.59	3.13	3.69	2.85	2.27	2.19	1.98	3.62
14	1.97	2.86	4.06	2.40	3.91	3.21	3.48	2.79	2.22	2.10	1.96	2.94
15	1.97	2.78	3.81	2.36	3.48	3.18	3.37	2.71	2.19	2.11	1.94	2.65
16	1.95	2.69	3.52	2.34	3.25	3.15	3.43	2.66	2.26	2.08	1.93	2.48
17	1.95	2.61	3.30	2.45	3.10	3.29	3.37	2.62	2.48	2.07	1.93	2.36
18	1.95	2.56	3.14	2.31	2.97	4.27	3.29	2.58	2.32	2.06	1.92	2.28
19	1.95	2.53	3.02	2.26	2.87	7.82	3.17	2.55	2.25	2.03	1.91	2.21
20	2.48	6.17	2.93	2.22	2.78	8.09	3.08	2.54	2.21	2.02	1.92	2.16
21	5.79	5.39	2.89	2.20	2.70	5.08	3.28	2.53	2.31	2.01	1.91	2.11
22	4.71	4.00	2.82	2.22	2.63	4.27	7.46	2.56	2.23	1.99	2.03	2.08
23	3.93	4.04	2.70	2.23	2.57	3.86	7.37	2.53	2.32	1.99	2.05	2.20
24	3.41	8.39	2.67	2.26	2.53	3.72	5.07	2.48	2.30	1.98	2.03	3.32
25	3.09	5.04	2.80	2.27	2.48	5.79	4.34	2.46	2.24	1.97	2.04	2.83
26	2.87	4.10	2.56	2.35	2.45	4.92	3.95	2.67	2.21	1.95	2.00	2.69
27	2.70	3.75	2.51	2.34	2.50	4.27	3.69	2.66	2.17	1.99	1.96	3.30
28	2.58	4.14	2.49	2.35	2.55	4.16	3.49	2.59	2.15	1.96	1.96	3.01
29	2.50	5.59	2.40	2.35	2.53	7.97	3.30	2.58	2.14	1.96	1.94	2.77
30	2.42	5.66	2.37	2.36	---	5.25	3.21	2.48	2.11	1.95	1.93	2.60
31	2.37	---	2.37	2.33	---	4.30	---	2.42	---	1.95	1.91	---
MEAN	2.48	4.07	3.45	2.39	2.72	4.49	5.80	2.70	2.26	2.14	1.96	2.54
MAX	5.79	9.71	6.78	2.69	4.59	10.43	56.57	3.51	2.48	2.91	2.07	5.31
MIN	1.90	2.32	2.37	2.20	2.19	2.51	3.08	2.42	2.11	1.95	1.91	1.88

CAL YR 1983 MEAN 2.97 MAX 18.06 MIN 1.90
WTR YR 1984 MEAN 3.09 MAX 56.57 MIN 1.88

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07013050 CROOKED CREEK NEAR DILLARD, MO

WATER-QUALITY RECORDS

LOCATION.--Lat 37°42'42", long. 91°11'48", in NW¼ sec. 31, T.35 N., R.2 W., Crawford County, Hydrologic Unit 07140102, at bridge on county road.

PERIOD OF RECORD.--October 1982 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	TIME	AGENCY ANA-LYZING SAMPLE (CODE NUMBER) (00028)	STREAM-FLOW, INSTAN-TANEOUS (CFS) (00061)	SPE-CIFIC CON-DUCT-ANCE (UMHOS) (00095)	PH (STAND-ARD UNITS) (00400)	TEMPER-ATURE (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD) (01027)	CADMIUM DIS-SOLVED (UG/L AS CD) (01025)	COBALT, TOTAL RECOV-ERABLE (UG/L AS CO) (01037)
OCT											
04...	0945	29001	1.9	590	7.3	19.0	5.0	54	3	2	<60
NOV											
09...	1650	29001	6.0	510	7.4	13.5	6.0	57	<2	<2	<60
JAN											
05...	1240	29001	2.8	409	6.8	4.0	11.0	86	<2	<2	<60
26...	1700	29001	3.0	516	7.4	2.0	10.4	78	<2	<2	<60
FEB											
17...	1120	29001	14	347	7.2	7.0	11.2	95	<2	<2	<60
MAR											
08...	1550	29001	18	303	7.3	5.5	9.2	74	<2	<2	<60
APR											
03...	1000	29001	56	262	8.0	10.0	11.4	101	3	3	<60
MAY											
01...	0855	29001	14	355	7.8	13.0	8.0	75	2	<2	--
JUN											
05...	0935	29001	7.3	482	7.2	19.0	4.0	43	2	<2	<60
JUL											
16...	1200	80020	5.6	495	7.4	27.5	8.0	101	2	<1	<1
AUG											
24...	1105	80020	3.4	486	7.3	21.0	6.6	73	2	2	<1
SEP											
10...	1115	80020	5.6	439	7.6	20.0	8.0	88	2	1	<1

DATE	COBALT, DIS-SOLVED (UG/L AS CO) (01035)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB) (01051)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI) (01067)	NICKEL, DIS-SOLVED (UG/L AS NI) (01065)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN) (01092)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)
OCT											
04...	<60	<5	<5	50	<20	<5	<5	<50	<50	40	<10
NOV											
09...	<60	<5	<5	160	<20	8	<5	<50	<50	40	20
JAN											
05...	<60	<5	<5	60	20	<5	<5	<50	<50	<10	<10
26...	<60	<5	<5	50	<20	<5	<5	<50	<50	40	14
FEB											
17...	<60	<5	<5	<20	<20	<5	<5	<50	<50	<10	<10
MAR											
08...	<60	<5	<5	<20	20	<5	<5	<50	<50	<10	<10
APR											
03...	<60	<5	<5	50	30	<5	<5	<50	<50	<10	25
MAY											
01...	<60	<5	<5	30	<20	<5	<5	<50	<50	<10	<10
JUN											
05...	<60	<5	<5	20	<20	<5	<5	<50	<50	<10	17
JUL											
16...	<1	6	3	40	6	9	1	21	2	40	47
AUG											
24...	<1	5	2	20	<3	1	2	4	<1	10	16
SEP											
10...	2	4	2	140	<3	3	3	6	3	30	21

07014500 MERAMEC RIVER NEAR SULLIVAN, MO

LOCATION.--Lat 38°09'30", long 91°06'30", in SE¼NE¼ sec. 35, T.40 N., R.2 W., Crawford County, Hydrologic Unit 07140102, on right bank at upstream side of Sappington Bridge, 3.8 mi downstream from Brazil Creek, 4.0 mi southeast of Sullivan, and at mile 117.0.

DRAINAGE AREA.--1,475 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--September 1921 to September 1933, October 1943 to current year. Monthly discharge only for October 1943, published in WSP 1311.

REVISED RECORDS.--WSP 1007: 1922,(M), 1924-30, 1933, drainage area.

GAGE.--Water-stage recorder. Datum of gage is 581.82 ft National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers). Prior to Oct. 21, 1952, nonrecording gage at present site and datum.

REMARKS.--Records good. Water diverted from river 0.5 mi above gage by mining company.

AVERAGE DISCHARGE.--53 years, 1,177 ft³/s, 10.84 in/yr, 852,700 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 77,300 ft³/s June 9, 1945, gage height, 32.0 ft; maximum gage height, 32.34 ft, Dec. 4, 1982; minimum discharge, 131 ft³/s Sept. 20, 22, 1956.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in August 1915 reached a stage of 33.5 ft from information by local residents, discharge 90,000 ft³/s.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 8,500 ft³/s and maximum (*):

Date	Time	Discharge (ft³/s)	Gage height (ft)
Nov. 5	0645	9,460	12.18
Nov. 20	2330	8,830	11.72
Nov. 24	1400	10,900	13.09
Dec. 4	2330	9,740	12.37
Mar. 5	1915	12,900	14.21
Mar. 20	0415	11,500	13.44
Apr. 22	1545	*13,600	14.62

Minimum discharge, 291 ft³/s Oct. 3.

DISCHARGE (CUBIC FEET/SECOND) WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	312	579	2210	1310	738	934	3190	1900	899	536	391	315
2	305	592	1910	985	724	1030	2750	1770	845	512	384	322
3	297	1670	2250	788	720	1390	3400	1690	802	504	380	355
4	325	7020	7410	770	715	5310	5210	1630	770	557	380	338
5	440	8290	8120	821	715	11600	5210	1560	738	1000	380	335
6	551	3480	4160	995	671	8030	3960	2170	724	1870	387	338
7	557	2320	2940	1110	641	4270	3140	2320	698	1210	384	332
8	473	1850	2400	1060	620	3130	3160	2310	684	904	376	335
9	418	1570	2060	1030	616	2540	3990	2140	663	738	398	536
10	381	1440	1860	1030	924	2170	3700	1920	641	645	454	990
11	362	1410	3690	1090	1450	1940	3120	1750	650	624	454	2570
12	369	1320	5600	1010	1960	1800	2820	1610	738	611	435	3210
13	356	1190	4360	939	3260	1730	2680	1530	689	569	409	2700
14	350	1090	3280	874	2890	1830	2460	1460	658	544	384	1510
15	349	1000	2790	817	2260	1920	2290	1360	802	524	362	1110
16	340	909	2360	784	1910	1930	2220	1270	1260	520	352	850
17	336	835	2020	756	1680	2230	2150	1200	1060	492	345	702
18	341	779	1780	733	1500	3530	2020	1130	874	473	342	620
19	357	1140	1600	702	1370	7550	1890	1070	756	457	342	569
20	3800	5320	1490	698	1260	10800	1780	1050	702	450	335	520
21	4380	6690	1380	693	1150	5800	3190	1060	821	461	332	488
22	3370	3300	1290	698	1070	3930	12700	1090	860	438	368	516
23	3350	4110	1200	680	1000	3040	10400	1090	798	431	405	1590
24	1790	9500	1150	711	939	3610	5780	1060	752	420	398	2390
25	1420	6450	1100	733	879	5930	4150	1060	658	405	398	1740
26	1170	3260	1040	788	864	5030	3320	1620	616	405	380	1500
27	980	2930	1030	812	949	3880	2850	1330	594	413	366	1790
28	855	4150	985	807	980	4440	2500	1230	577	413	355	1530
29	756	3660	969	807	945	7370	2210	1170	561	405	355	1250
30	684	2720	995	798	---	6090	2080	1060	544	398	335	1040
31	633	---	1390	770	---	4090	---	969	---	394	322	---
TOTAL	30407	90574	76819	26599	35400	128874	110320	45579	22434	18323	11688	32391
MEAN	981	3019	2478	858	1221	4157	3677	1470	748	591	377	1080
MAX	4380	9500	8120	1310	3260	11600	2700	2320	1260	1870	454	3210
MIN	297	579	969	680	616	934	1780	969	544	394	322	315

CAL YR 1983	TOTAL	627582	MEAN	1719	MAX	42700	MIN	267
WTR YR 1984	TOTAL	629408	MEAN	1720	MAX	12700	MIN	297

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07014500 MERAMEC RIVER NEAR SULLIVAN, MO--Continued

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984
INSTANTANEOUS OBSERVATIONS AT 0800

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.79	2.53	5.39	---	2.84	3.20	6.48	4.80	3.17	---	1.95	1.71
2	1.77	2.49	4.93	3.41	2.81	3.31	5.88	4.57	3.06	2.31	1.93	1.69
3	1.75	3.46	4.67	2.92	2.80	3.82	6.21	4.47	2.98	2.27	1.92	1.85
4	1.81	9.99	9.94	2.91	2.80	8.00	8.30	4.37	2.92	2.36	1.91	1.78
5	2.17	12.14	11.73	2.99	2.80	13.25	8.64	4.22	2.86	2.79	1.91	1.77
6	2.41	7.21	8.04	3.26	2.72	12.07	7.31	5.21	2.82	4.95	1.92	1.80
7	2.49	5.62	6.47	3.52	2.64	7.66	6.39	5.28	2.78	3.78	1.92	1.76
8	2.26	4.86	5.69	3.44	2.60	6.44	6.12	5.26	2.74	3.20	1.90	1.72
9	2.11	4.36	5.17	3.37	2.58	5.69	7.18	5.14	2.69	2.67	1.92	2.28
10	2.00	4.14	4.77	3.37	2.97	5.19	7.01	4.80	2.62	2.67	2.12	3.17
11	1.94	4.10	6.85	3.57	3.91	4.86	6.36	4.57	2.63	2.54	2.12	6.57
12	1.96	3.94	9.34	3.34	4.79	4.61	5.95	4.36	2.87	2.58	2.08	6.25
13	1.93	3.71	8.20	3.23	6.63	4.50	5.79	4.21	2.76	2.45	2.02	6.59
14	1.92	3.51	6.92	3.12	6.22	4.64	5.53	4.09	2.61	2.38	1.96	4.34
15	1.90	3.35	6.25	3.00	5.33	4.76	5.28	3.91	2.78	2.31	1.85	3.59
16	1.89	3.19	5.63	2.93	4.83	4.81	5.17	3.79	3.89	2.32	1.82	3.10
17	1.88	3.05	5.10	2.87	4.46	5.08	5.09	3.66	---	2.23	1.80	2.80
18	1.88	2.94	4.74	2.85	4.18	6.55	4.93	3.55	3.17	2.18	1.79	2.60
19	1.87	2.86	4.42	2.77	3.98	9.56	4.74	3.47	2.92	2.14	1.80	2.44
20	---	7.22	4.19	2.76	3.80	13.35	4.56	3.42	2.76	2.11	1.77	2.32
21	---	10.63	---	2.75	3.61	9.29	5.18	3.41	2.79	2.10	1.75	2.22
22	---	7.03	---	2.75	3.47	7.30	14.05	3.45	3.09	2.08	1.88	2.18
23	7.10	6.18	3.73	2.69	3.35	6.30	13.34	3.49	2.97	2.06	1.96	2.79
24	---	12.10	---	2.76	3.23	5.99	9.28	3.43	---	2.02	1.95	5.47
25	4.14	10.85	---	2.81	3.13	9.23	7.50	3.31	2.71	1.99	1.97	4.71
26	3.68	6.95	---	2.92	3.10	8.47	6.62	4.53	2.62	1.98	1.91	4.03
27	3.33	5.95	---	2.99	3.24	7.21	6.04	3.90	2.52	1.99	1.88	4.75
28	3.10	7.56	---	2.98	3.30	7.07	5.60	3.74	2.49	2.01	1.84	4.33
29	2.90	7.44	---	2.97	3.25	10.41	5.21	3.62	2.42	1.99	1.81	3.85
30	2.75	6.19	---	2.96	---	9.75	5.00	3.43	2.38	1.97	1.79	3.43
31	2.64	---	---	2.91	---	7.47	---	3.28	---	1.95	1.73	---
MEAN	---	5.85	---	---	3.63	7.09	6.69	4.09	---	---	1.90	3.26
MAX	---	12.14	---	---	6.63	13.35	14.05	5.28	---	---	2.12	6.59
MIN	---	2.49	---	---	2.58	3.20	4.56	3.28	---	--	1.73	1.69

07014500 MERAMEC RIVER NEAR SULLIVAN, MO.--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--August 1963 to July 1975, July 1977 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	TIME	AGENCY ANALYZING SAMPLE (CODE NUMBER) (00028)	STREAMFLOW, INSTANTANEOUS (CFS) (00061)	SPECIFIC CONDUCTANCE (UMHOS) (00095)	PH (STANDARD UNITS) (00400)	TEMPERATURE (DEG C) (00010)	OXYGEN, DISSOLVED (MG/L) (00300)	OXYGEN, DISSOLVED (PERCENT SATURATION) (00301)	OXYGEN DEMAND, CHEMICAL (LOW LEVEL) (MG/L) (00335)	OXYGEN DEMAND, CHEMICAL (HIGH LEVEL) (MG/L) (00340)	COLIFORM, FECAL, 0.7 UM-MF (COLS./100 ML) (31625)
OCT											
04...	1500	29001	340	368	8.2	20.5	7.8	86	<5	--	35
NOV											
17...	1230	29001	810	268	8.0	10.0	10.8	95	8	--	14
DEC											
20...	1245	29001	1450	229	7.9	2.5	14.0	100	10	--	11
JAN											
18...	1445	29001	740	276	8.2	1.5	14.0	97	6	--	<1
FEB											
23...	1230	29001	1010	290	8.2	10.0	11.4	100	7	--	K1
MAR											
21...	1330	29001	4720	166	7.7	6.5	11.2	91	7	--	460
APR											
19...	1230	29001	1880	250	8.1	13.0	9.6	90	6	--	K2
MAY											
10...	1110	29001	1940	263	7.8	14.5	7.8	75	<5	--	21
JUN											
20...	1230	29001	720	336	8.0	25.5	6.6	79	<5	--	39
JUL											
18...	1300	80020	496	341	8.3	25.0	7.8	92	--	14	6
AUG											
15...	1100	80020	380	345	7.9	22.0	7.8	87	--	150	K60
SEP											
19...	1150	80020	586	335	7.9	17.0	8.6	87	--	40	24

DATE	HARDNESS (MG/L AS CACO3) (00900)	HARDNESS, NONCARBONATE (MG/L CACO3) (00902)	CALCIUM DISSOLVED (MG/L AS CA) (00915)	MAGNESIUM, DISSOLVED (MG/L AS MG) (00925)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	POTASSIUM, DISSOLVED (MG/L AS K) (00935)	ALKALINITY FIELD (MG/L AS CACO3) (00410)	CARBON DIOXIDE DISSOLVED (MG/L AS CO2) (00405)	SULFATE DISSOLVED (MG/L AS SO4) (00945)	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)
OCT										
04...	206	17	39	25	3.1	1.2	184	2.2	7.0	5.0
NOV										
17...	--	--	--	--	--	--	139	2.7	--	--
DEC										
20...	--	--	--	--	--	--	115	2.8	--	--
JAN										
18...	--	--	--	17	2.6	1.1	151	1.8	19	5.0
FEB										
23...	--	--	--	--	--	--	132	1.6	--	--
MAR										
21...	--	--	--	--	--	--	73	2.8	--	--
APR										
19...	120	9	25	15	2.2	1.0	115	1.8	12	3.0
MAY										
10...	--	--	--	--	--	--	129	3.9	--	--
JUN										
20...	--	--	--	--	--	--	159	3.1	--	--
JUL										
18...	180	9	38	21	2.6	1.2	173	1.7	8.2	3.3
AUG										
15...	--	--	--	--	--	--	173	4.2	--	--
SEP										
19...	--	--	--	--	--	--	169	4.1	--	--

K--Results based on colony count outside the acceptable range (non-ideal colony count).

07014500 MERAMEC RIVER NEAR SULLIVAN, MO--Continued

DATE	FLUORIDE, DISSOLVED (MG/L AS F) (00950)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L) (70300)	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MG/L) (00530)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITROGEN, AMMONIA TOTAL (MG/L AS N) (00610)	PHOSPHORUS, TOTAL (MG/L AS P) (00665)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD) (01027)	CADMIUM DISSOLVED (UG/L AS CD) (01025)	COPPER, TOTAL RECOVERABLE (UG/L AS CU) (01042)	COPPER, DISSOLVED (UG/L AS CU) (01040)
OCT 04...	.10	190	<1	.08	<.010	<.050	<2	<2	<5	<5
NOV 17...	--	--	5	.66	.030	<.050	--	--	--	--
DEC 20...	--	--	7	.63	.010	.050	--	--	--	--
JAN 18...	.10	158	1	.43	.030	<.050	<2	<2	<5	<5
FEB 23...	--	--	5	.38	.060	<.050	--	--	--	--
MAR 21...	--	--	60	.36	.070	.070	--	--	--	--
APR 19...	<.10	191	8	.28	.030	<.050	<2	<2	<5	<5
MAY 10...	--	--	1	.16	.010	<.050	--	--	--	--
JUN 20...	--	--	10	.41	.010	<.050	--	--	--	--
JUL 18...	.10	181	3	.30	.020	.010	<1	<1	21	3
AUG 15...	--	--	1	.20	<.010	.010	--	--	--	--
SEP 19...	--	--	5	.40	.020	.020	--	--	--	--

DATE	IRON, TOTAL RECOVERABLE (UG/L AS FE) (01045)	IRON, DISSOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOVERABLE (UG/L AS PB) (01051)	LEAD, DISSOLVED (UG/L AS PB) (01049)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN) (01055)	MANGANESE, DISSOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOVERABLE (UG/L AS HG) (71900)	MERCURY DISSOLVED (UG/L AS HG) (71890)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN) (01092)	ZINC, DISSOLVED (UG/L AS ZN) (01090)
OCT 04...	<20	<20	<5	<5	<20	<20	<.2	<.2	10	62
NOV 17...	--	--	--	--	--	--	--	--	--	--
DEC 20...	--	--	--	--	--	--	--	--	--	--
JAN 18...	100	30	<5	<5	<20	24	<.2	.2	20	<10
FEB 23...	--	--	--	--	--	--	--	--	--	--
MAR 21...	--	--	--	--	--	--	--	--	--	--
APR 19...	250	30	<5	<5	31	20	.8	<.2	<10	<10
MAY 10...	--	--	--	--	--	--	--	--	--	--
JUN 26...	--	--	--	--	--	--	--	--	--	--
JUL 18...	170	6	5	<1	20	10	.1	<.1	150	5
AUG 15...	--	--	--	--	--	--	--	--	--	--
SEP 19...	--	--	--	--	--	--	--	--	--	--

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07015720 BOURBEUSE RIVER NEAR HIGH GATE, MO

LOCATION.--Lat 38°08'49", long 91°34'50", in SW¼NE¼ sec.4, T.39 N., R.6 W., Phelps County, Hydrologic Unit 07140103, on downstream side of right bridge pier on State Highway B, 1.8 mi downstream from Lanes Fork, 5 mi east of High Gate, and 11 mi north of St. James.

DRAINAGE AREA.--135 mi^2.

PERIOD OF RECORD.--July 1965 to current year. Occasional low-flow measurements 1963, 1964

REVISED RECORDS.--WDR MO-83-1: 1982.

GAGE.--Water-stage recorder. Datum of gage is 804.1 ft National Geodetic Vertical Datum of 1929 (levels by Missouri State Highway Commission). Prior to Aug. 17, 1966, nonrecording gage at present site and datum.

REMARKS.--Records fair. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.- 19 years, 122 ft^3/s, 12.27 in/yr, 88,390 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 49,300 ft^3/s Dec. 3, 1982 from rating curve extended above 33,500 ft^3/s, gage height, 23.65 ft; no flow Aug. 27 to Sept. 15, 1971, July 28 to Aug. 24, 1975, Aug. 18-22, 1976.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 1957 reached a stage of about 23 ft, from information by local resident.

EXTREMES FOR CURRENT YEAR.--Peak discharges above of 3,500 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 3	unknown	5,000	9.50
Nov. 19	2030	3,710	8.24
Nov. 23	1130	*6,790	11.23
Dec. 3	2200	4,030	8.60
Dec. 11	0415	4,340	8.93
Mar. 4	unknown	unknown	unknown
Mar. 18	unknown	unknown	unknown
Apr. 21	unknown	unknown	unknwon

Minimum discharge, 0.80 ft^3/s Oct. 1, 2, 3, 10, 11.

DISCHARGE (CUBIC FEET/SECOND) WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.80	8.2	78	23	45	195	149	52	28	6.7	1.9	1.6
2	.80	740	103	22	44	337	245	47	23	6.3	1.9	1.8
3	.84	3600	913	21	54	880	1250	44	20	6.3	1.9	1.6
4	1.2	1500	934	25	54	6000	693	42	18	445	1.9	1.6
5	1.8	308	299	35	47	1000	346	37	17	1300	1.9	1.6
6	1.8	156	194	50	46	550	208	396	22	119	1.8	1.5
7	1.6	96	127	101	36	325	160	440	21	67	1.7	1.5
8	1.5	67	97	380	33	225	1200	310	16	46	1.7	2.0
9	1.4	59	76	300	53	175	706	145	15	34	1.5	25
10	1.0	282	95	330	87	145	335	91	14	25	1.6	17
11	.80	191	1810	170	118	125	224	65	13	29	1.6	7.3
12	1.5	110	577	125	152	120	279	51	12	33	1.6	5.6
13	1.2	77	267	100	250	187	217	47	11	20	1.6	4.5
14	.99	60	251	80	206	253	151	41	10	15	1.6	3.0
15	1.1	49	157	70	133	254	178	33	80	11	1.6	2.4
16	1.1	41	110	60	99	457	188	29	419	8.3	1.6	2.3
17	1.2	34	80	50	81	1300	154	25	73	6.4	1.6	2.1
18	1.2	31	122	40	101	875	121	22	38	5.4	1.6	2.3
19	2.4	785	80	30	116	2200	97	21	24	4.4	1.6	2.3
20	818	691	60	25	80	645	89	25	19	3.7	1.5	2.1
21	910	217	50	25	65	331	4000	23	16	3.3	1.5	2.2
22	426	123	40	40	56	213	945	20	14	3.1	2.5	3.3
23	129	2480	35	50	49	157	505	17	14	2.8	3.5	110
24	71	460	30	62	44	1700	281	16	14	2.6	3.8	27
25	45	208	27	78	40	764	185	29	12	2.5	2.0	14
26	30	127	32	65	53	465	136	172	10	2.3	1.7	11
27	24	333	28	68	117	666	105	80	9.1	2.3	1.6	8.7
28	19	362	26	65	144	1500	86	139	7.9	2.1	1.6	7.5
29	15	167	25	67	167	616	70	78	7.3	2.1	1.6	7.2
30	11	108	24	60	---	292	61	51	6.8	2.1	1.6	6.8
31	9.6	- -	23	51	---	193	---	37	---	2.1	1.6	---
TOTAL	2531.83	13470.2	6770	2668	2544	23145	13364	2625	1004.1	2218.6	56.8	286.9
MEAN	81.7	449	218	86.1	87.7	747	445	84.7	33.5	71.6	1.83	9.56
MAX	910	3600	1810	380	250	6000	4000	440	419	1300	3.8	110
MIN	.80	8.2	23	21	33	120	61	16	6.8	2.1	1.5	1.5

CAL YR 1983	TOTAL 63787.60	MEAN	175	MAX	7290	MIN	.15
WTR YR 1984	TOTAL 70684.33	MEAN	193	MAX	6000	MIN	.80

07015720 BOURBEUSE RIVER NEAR HIGH GATE, MO--Continued

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984
INSTANTANEOUS OBSERVATIONS AT 0800

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.01	.39	1.20	---	.88	1.80	1.50	.96	.71	.35	.37	.36
2	---	.37	1.16	---	.86	2.25	---	.90	.63	.34	.37	.36
3	.01	---	1.59	---	.97	3.65	---	.87	.59	.34	.37	.36
4	.03	---	4.08	---	.98	---	3.36	.84	.55	.55	.37	.36
5	.07	2.43	2.36	---	.90	---	2.40	.79	.53	3.59	.37	.36
6	.08	1.73	1.96	---	.89	---	1.82	3.70	.56	1.52	.37	.35
7	.07	1.35	1.53	---	.89	---	1.52	2.15	.61	1.13	.37	.35
8	.05	1.12	1.35	---	.76	---	---	2.44	.52	.92	.37	.35
9	.05	.96	1.19	---	.74	---	3.54	1.69	.50	.80	.36	---
10	.03	2.40	1.07	---	1.03	---	---	1.34	.49	.71	.36	---
11	.01	1.92	6.37	---	1.48	---	---	1.14	.49	.71	.36	.55
12	.06	1.44	3.35	---	1.64	---	---	1.00	.45	.87	.36	.50
13	.04	1.19	2.22	---	1.69	1.66	---	.90	.43	.69	.36	.47
14	.02	1.03	2.25	---	1.98	2.03	---	.88	.42	.61	.36	.41
15	.03	.92	1.72	---	1.58	1.78	---	.79	.59	.56	.36	.38
16	.03	.81	---	---	1.35	2.89	---	.74	2.48	.52	.36	.38
17	.04	.74	---	---	1.22	---	---	.70	1.19	.49	.36	.37
18	.04	.69	---	---	1.13	---	---	.65	.83	.48	.36	.37
19	.04	.68	---	---	1.49	---	---	.62	.65	.46	.36	.37
20	.77	3.61	---	---	1.22	3.36	---	.68	.57	.44	.36	.36
21	---	2.03	---	---	1.09	2.32	---	.67	.53	.43	.35	.36
22	---	1.52	---	---	1.00	1.83	---	.61	.49	.42	.42	.36
23	---	9.10	---	---	.93	1.54	3.18	.58	.49	.41	.41	1.60
24	---	2.95	---	---	.88	---	2.30	.53	.49	.40	.46	.86
25	---	1.99	---	---	.82	---	1.83	.51	.46	.39	.38	.64
26	---	1.55	---	---	.85	2.45	1.59	2.04	.43	.39	.37	.58
27	.65	1.36	---	---	1.44	3.37	1.39	1.18	.41	.39	.36	.54
28	.58	2.63	---	1.07	1.56	---	1.27	1.71	.38	.39	.36	.52
29	.51	1.79	---	1.09	1.67	3.28	1.12	1.24	.37	.38	.36	.50
30	.45	1.42	---	1.04	---	2.18	1.05	.97	.35	.38	.36	.48
31	.41	---	---	.97	---	1.74	---	.82	---	.38	.36	---
MEAN	---	---	---	---	1.17	---	---	1.12	.61	.66	.37	---
MAX	---	---	---	---	1.98	---	---	3.70	2.48	3.59	.46	---
MIN	---	---	---	---	.74	---	---	.51	.35	.34	.35	---

07016400 BOURBEUSE RIVER ABOVE UNION, MO

WATER-QUALITY RECORDS

LOCATION.--Lat 38°25'55", long 91°01'11", in SW¼NW¼ sec.34, T.43 N., R.1 W., Franklin County, Hydrologic Unit 07140103, at bridge on North Bend Drive, 5.5 mi upstream from gaging station, 0.5 mi southwest of Union.

DRAINAGE AREA.--808 mi² approximately.

PERIOD OF RECORD.--November 1983 to current year.

REMARKS.--Discharge from Bourbeuse River at Union, Mo.

WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS) (00061)	SPE-CIFIC CON-DUCT-ANCE (UMHOS) (00095)	PH (STAND-ARD UNITS) (00400)	TEMPER-ATURE (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L) (00340)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./100 ML) (31625)	HARD-NESS (MG/L AS CACO3) (00900)
NOV 16...	1200	331	190	7.6	10.5	10.4	91	13	44	110
DEC 21...	1215	598	175	7.5	.5	14.2	96	13	30	--
JAN 18...	1115	379	165	7.5	.5	14.0	94	10	4	88
FEB 23...	1030	450	208	7.8	7.5	12.0	99	10	8	--
MAR 21...	1100	12100	76	7.3	4.5	11.6	89	31	1100	--
APR 19...	1045	616	190	7.8	13.0	9.2	86	12	6	84
MAY 10...	0950	875	213	7.6	16.0	8.8	87	16	K18	--
JUN 20...	1000	303	249	7.9	27.0	6.4	79	19	47	--
JUL 18...	1100	131	210	7.8	26.0	6.8	82	20	42	99
AUG 14...	1245	43	278	8.0	26.0	7.8	94	80	K6	--
SEP 18...	1250	92	227	7.4	18.0	4.4	45	30	120	--

DATE	HARD-NESS, NONCAR-BONATE (MG/L CACO3) (00902)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ALKA-LINITY FIELD (MG/L AS CACO3) (00410)	CARBON DIOXIDE DIS-SOLVED (MG/L AS CO2) (00405)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)
NOV 16...	22	21	13	4.6	2.1	84	4.1	24	4.8	<.10
DEC 21...	--	--	--	--	--	66	4.0	--	--	--
JAN 18...	28	17	11	4.0	1.6	60	3.7	22	5.4	<.10
FEB 23...	--	--	--	--	--	70	2.1	--	--	--
MAR 21...	--	--	--	--	--	32	3.1	--	--	--
APR 19...	14	17	10	3.5	1.3	70	2.1	22	3.4	<.10
MAY 10...	--	--	--	--	--	82	4.0	--	--	--
JUN 20...	--	--	--	--	--	94	2.3	--	--	--
JUL 18...	5	20	12	3.0	2.3	94	2.9	14	3.2	<.10
AUG 14...	--	--	--	--	--	120	2.3	--	--	--
SEP 18...	--	--	--	--	--	94	7.2	--	--	--

K--Results based on colony count outside the acceptable range (non-ideal colony count).

07016400 BOURBEUSE RIVER ABOVE UNION, MO--Continued

DATE	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L) (00530)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	PHOS-PHORUS, TOTAL (MG/L AS P) (00665)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD) (01027)	CADMIUM DIS-SOLVED (UG/L AS CD) (01025)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)
NOV										
16...	141	20	.70	.040	.020	<1	<1	6	<1	600
DEC										
21...	--	12	1.0	.030	.020	--	--	--	--	--
JAN										
18...	113	10	.90	.020	.010	<1	<1	7	<1	480
FEB										
23...	--	21	.60	.030	.020	--	--	--	--	--
MAR										
21...	--	146	.40	<.010	.090	--	--	--	--	--
APR										
19...	120	18	.40	.020	.050	<1	<1	3	2	450
MAY										
10...	--	18	.10	.060	.020	--	--	--	--	--
JUN										
20...	--	8	.20	<.010	.020	--	--	--	--	--
JUL										
18...	117	13	.40	.020	.040	<1	<1	9	3	570
AUG										
14...	--	8	<.10	.060	.390	--	--	--	--	--
SEP										
18...	--	9	.40	.090	.060	--	--	--	--	--

DATE	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB) (01051)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG) (71900)	MERCURY DIS-SOLVED (UG/L AS HG) (71890)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN) (01092)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)
NOV									
16...	120	1	1	50	30	<.1	<.1	30	10
DEC									
21...	--	--	--	--	--	--	--	--	--
JAN									
18...	90	3	<1	70	43	.2	<.1	50	18
FEB									
23...	--	--	--	--	--	--	--	--	--
MAR									
21...	--	--	--	--	--	--	--	--	--
APR									
19...	81	4	1	50	35	<.1	<.1	110	22
MAY									
10...	--	--	--	--	--	--	--	--	--
JUN									
20...	--	--	--	--	--	--	--	--	--
JUL									
18...	29	<1	<1	80	33	--	<.1	130	20
AUG									
14...	--	--	--	--	--	--	--	--	--
SEP									
18...	--	--	--	--	--	--	--	--	--

BEST COPY AVAILABLE

07016500 BOURBEUSE RIVER AT UNION, MO

LOCATION.--Lat 38°26'45", long 90°59'30", in SE¼ sec.26, T.43 N., R.1 W., Franklin County, Hydrologic Unit 070140103, on right bank downstream side of pier of bridge on U.S. Highway 50, 800 ft upstream from Flat Creek, 0.5 mi east of Union, 7.0 mi upstream from Birch Creek, and at mile 13.4.

DRAINAGE AREA.--808 mi².

PERIOD OF RECORD.--June 1921 to current year; Oct. 1916 to 1921 gage heights are contained in reports of National Weather Service.

REVISED RECORDS.--WSP 957: 1941. WSP 1147: Drainage area. WSP 1281: 1924.

GAGE.--Water-stage recorder. Datum of gage is 488.58 ft National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1948, datum of all gages 3.00 ft higher. Prior to Oct. 21, 1933, nonrecording gage, at site 30 ft upstream. Oct. 21, 1933, to June 11, 1944, nonrecording gage, at present site.

REMARKS.--Records good. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--63 years, 640 ft³/s, 10.76 in/yr, 463,700 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 73,300 ft³/s December 5, 1982, gage height, 33.80 ft; minimum, 11 ft³/s Oct. 10, 1956.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Aug. 22, 1915, reached a stage of 28.5 ft, present datum, from floodmarks, discharge, about 50,000 ft³/s, determined from extension of rating curve for main channel based on measurements made since 1921 and study of overflow areas in vicinity of gaging station.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 7,500 ft³/s and maximum (*):

Date	Time	Discharge (ft³/s)	Gage height (ft)
Dec. 5	1230	7,620	11.83
Mar. 7	0115	*16,600	18.05
Mar. 21	1000	12,100	15.43
Mar. 26	0730	8,350	12.47
Apr. 23	1330	11,300	14.83

Minimum discharge, 37 ft³/s Sept. 2.

DISCHARGE (CUBIC FEET/SECOND) WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	41	154	897	274	354	992	1280	476	457	97	55	40
2	40	229	680	271	324	1230	998	577	364	69	54	46
3	40	189	932	264	305	1770	1630	413	305	86	52	59
4	41	1030	4120	264	295	5450	5530	354	264	95	52	47
5	44	6170	7080	299	292	9970	4470	318	238	116	51	43
6	44	3350	2520	403	277	14200	2410	324	213	199	50	41
7	45	907	1390	1030	264	10900	1490	318	196	1090	50	41
8	45	599	993	2700	235	2170	1540	568	189	454	50	52
9	44	454	777	2500	226	1780	3760	1100	181	286	48	74
10	43	399	639	2110	258	1360	4170	873	166	207	47	68
11	63	358	1000	3740	295	1070	2110	568	156	173	46	1790
12	82	488	4800	1680	559	947	1420	428	154	149	46	652
13	84	640	3970	877	3020	834	1170	378	145	129	45	361
14	78	472	1940	635	2810	791	1240	321	140	113	44	238
15	77	378	1380	509	1320	1190	937	299	138	138	44	170
16	75	324	1150	439	887	2340	759	277	218	161	44	130
17	85	283	848	363	686	4520	764	274	196	133	44	106
18	93	249	659	351	586	6240	731	215	612	103	44	93
19	97	392	559	351	538	7190	621	199	403	87	43	84
20	364	1090	639	331	673	9690	530	189	274	78	42	78
21	1220	3570	586	331	671	9770	1680	181	210	75	44	72
22	3010	1770	530	295	571	2140	8310	178	178	72	50	97
23	2840	1730	472	214	439	1400	10300	166	221	68	52	255
24	1290	4530	424	242	382	1840	2840	154	184	65	48	364
25	657	5190	410	247	341	5570	1780	413	164	64	45	334
26	439	1540	371	289	334	6670	1210	2000	164	63	43	355
27	334	1310	328	334	428	2810	912	3330	138	60	43	244
28	267	1750	311	375	572	3580	731	1340	123	59	43	174
29	226	2300	328	385	802	5300	603	982	110	57	43	138
30	194	1420	341	385	---	4760	517	810	103	57	42	114
31	171	---	308	371	---	1940	---	599	---	55	41	---
TOTAL	12173	43265	41382	22859	18744	130414	66443	18622	6604	4678	1445	6360
MEAN	393	1442	1335	737	646	4207	2215	601	220	151	46.6	212
MAX	3010	6170	7080	3740	3020	14200	10300	3330	612	1090	55	1790
MIN	40	154	308	214	226	791	517	154	103	55	41	40

CAL YR 1983	TOTAL	316524	MEAN	867	MAX	20100	MIN	35
WTR YR 1984	TOTAL	372989	MEAN	1019	MAX	14200	MIN	40

07016500 BOURBEUSE RIVER AT UNION, MO--Continued

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984
INSTANTANEOUS OBSERVATIONS AT 0800

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.97	1.55	3.52	1.96	2.22	3.53	4.27	2.59	2.65	1.47	1.15	.97
2	.96	2.01	3.04	1.95	2.13	3.95	3.71	2.94	2.41	1.44	1.14	.95
3	.96	1.65	2.79	1.93	2.07	4.63	3.97	2.54	2.24	1.41	1.12	1.17
4	.97	1.72	7.39	1.93	2.03	9.42	9.36	2.36	2.12	1.42	1.12	1.06
5	.99	10.37	11.67	1.97	2.04	13.31	9.10	2.25	2.02	1.58	1.10	1.00
6	.99	6.07	6.52	2.26	1.99	16.22	6.30	2.29	1.96	1.51	1.09	.99
7	1.00	3.57	4.45	3.11	1.88	17.58	4.63	2.21	1.88	4.12	1.09	.98
8	1.00	2.89	3.72	6.20	1.86	5.76	4.27	2.37	1.84	2.69	1.07	.99
9	.99	2.51	3.26	6.41	1.83	5.01	7.19	3.70	1.83	2.20	1.06	1.30
10	.99	2.35	2.93	4.98	1.93	4.40	9.07	3.58	1.77	1.94	1.05	1.19
11	1.11	2.22	3.35	8.51	1.96	3.80	5.74	2.93	1.74	1.81	1.04	5.44
12	1.25	2.31	8.41	5.20	2.72	3.56	4.49	2.58	1.72	1.71	1.04	3.16
13	1.25	2.98	8.71	3.42	5.49	3.35	3.96	2.48	1.69	1.62	1.03	2.44
14	1.24	2.58	5.46	2.96	7.47	3.16	4.15	2.28	1.66	1.56	1.01	2.03
15	1.22	2.31	4.37	2.62	4.35	3.63	3.66	2.19	1.64	1.52	1.01	1.78
16	1.21	2.14	4.04	2.43	3.49	5.29	3.28	2.14	2.01	1.75	1.01	1.60
17	1.24	2.01	3.42	2.20	3.04	9.21	3.25	2.05	1.87	1.68	1.01	1.49
18	1.29	1.90	2.99	2.21	2.78	10.13	3.23	1.95	3.31	1.51	1.01	1.43
19	1.24	1.82	2.59	2.23	2.66	11.04	3.01	1.88	2.55	1.43	1.00	1.38
20	1.74	3.21	2.82	2.14	2.94	13.17	2.60	1.86	2.15	1.38	.99	1.33
21	3.91	8.04	2.82	2.14	3.04	15.36	4.34	1.83	1.94	1.35	.99	1.30
22	6.98	5.17	2.66	2.13	2.67	5.78	12.00	1.80	1.82	1.33	1.08	1.28
23	7.20	5.17	2.56	1.72	2.46	4.48	14.49	1.78	2.03	1.30	1.09	2.18
24	4.40	7.93	2.43	1.83	2.31	4.47	6.91	1.71	1.82	1.26	1.05	2.54
25	3.03	11.15	2.45	1.86	2.19	8.93	5.13	1.70	1.74	1.24	1.02	2.32
26	2.49	4.75	2.29	1.96	2.12	12.46	4.15	2.64	1.79	1.23	1.00	2.42
27	2.19	3.86	2.13	2.15	2.37	6.72	3.59	8.40	1.67	1.21	1.00	2.03
28	1.98	4.65	2.08	2.24	2.69	7.44	3.24	4.41	1.60	1.19	1.00	1.79
29	1.83	6.10	2.22	2.28	3.18	9.08	2.97	3.74	1.54	1.17	1.00	1.64
30	1.71	4.57	2.26	2.30	---	10.28	2.78	3.41	1.51	1.15	.99	1.53
31	1.63	---	2.13	2.27	---	5.45	---	2.99	---	1.14	.98	---
MEAN	1.93	3.99	3.92	2.89	2.76	7.76	5.30	2.70	1.95	1.59	1.04	1.72
MAX	7.20	11.15	11.67	8.51	7.47	17.58	14.49	8.40	3.31	4.12	1.15	5.44
MIN	.96	1.55	2.08	1.72	1.83	3.16	2.78	1.70	1.51	1.14	.98	.95

CAL YR 1983 MEAN 2.83 MAX 19.33 MIN .92
WTR YR 1984 MEAN 3.13 MAX 17.58 MIN .95

07017200 BIG RIVER AT IRONDALE, MO

LOCATION.--Lat 37°49'48", long 90°41'27", in SE¼SW¼ sec.15, T.36 N., R. 3 E., Washington County, Hydrologic Unit 07140104, on right bank 50 ft upstream from bridge on State Highway U. 0.2 mi upstream from Mill Creek, and 0.8 mi west of Irondale.

DRAINAGE AREA.--175 mi^2.

PERIOD OF RECORD.--July 1965 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 753.28 ft National Geodetic Vertical Datum of 1929 (Missouri State Highway Commission benchmark).

REMARKS.--Records good. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--19 years, 175 ft^3/s, 13.59 in/yr, 126,800 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 43,200 ft^3/s Nov. 1, 1972, gage height, 27.92 ft, from floodmarks, from rating curve extended above 13,000 ft^3/s on basis of step backwater computations and indirect measurement of peak flow of February 1966 flood; minimum, 2.2 ft^3/s Sept. 16, 1971.

EXTREMES FOR CURRENT YEAR.--Peak discharge above base of 3,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 19	2215	8,140	11.97
Nov. 23	1145	*22,600	19.33
Nov. 27	1745	3,460	7.58
Dec. 3	2215	6,220	10.10
Mar. 18	2245	6,080	9.98
Sept. 23	0245	3,210	7.32

Minimum discharge, 4.6 ft^3/s, Sept. 2.

DISCHARGE (CUBIC FEET/SECOND) WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.4	18	379	79	75	99	208	174	51	24	9.4	5.8
2	6.9	31	344	78	75	116	190	155	46	22	9.8	5.4
3	6.6	298	1670	75	83	219	703	149	42	22	11	7.6
4	9.6	417	1630	117	83	1440	795	139	39	26	14	7.6
5	14	242	561	152	77	887	414	126	37	435	14	6.2
6	23	165	420	133	76	479	281	123	34	98	12	5.6
7	16	126	323	112	74	338	219	214	33	63	11	5.8
8	13	95	275	106	67	272	439	287	32	48	14	6.6
9	11	81	238	105	63	218	503	185	31	39	23	50
10	10	93	368	114	147	187	345	148	30	32	17	32
11	9.6	91	1610	94	257	171	276	127	34	29	16	325
12	14	81	709	80	539	164	283	112	31	28	14	117
13	16	80	426	83	696	183	252	118	27	26	12	60
14	13	69	396	75	411	226	209	115	25	24	12	41
15	12	64	312	72	308	212	196	97	25	22	11	33
16	12	64	250	71	257	305	184	87	27	21	9.8	29
17	10	48	213	76	225	761	167	79	26	20	9.4	25
18	10	41	192	93	209	1400	152	75	24	18	9.4	22
19	12	2180	178	98	196	1810	138	69	22	17	9.4	19
20	87	1900	168	65	180	836	133	62	184	16	9.0	19
21	274	629	141	61	171	480	1460	97	214	15	8.2	17
22	331	469	142	63	162	350	990	77	73	14	11	200
23	135	6240	156	65	120	272	543	156	143	13	12	1250
24	95	1160	155	105	104	356	394	88	80	12	10	213
25	71	707	119	156	98	457	311	70	67	11	9.4	188
26	52	520	105	91	92	333	252	97	46	10	9.1	296
27	40	1670	94	86	104	333	221	81	38	11	8.2	143
28	36	1100	89	82	102	719	194	78	26	11	7.4	114
29	31	590	80	85	99	618	194	69	20	11	6.7	82
30	27	450	80	86	---	349	263	61	24	10	6.1	67
31	24	---	79	78	---	252	---	54	---	9.4	5.8	---
TOTAL	1429.1	19719	11902	2836	5150	14842	10909	3569	1537	1157.4	341.1	3392.6
MEAN	46.1	657	384	91.5	178	479	364	115	51.2	37.3	11.0	113
MAX	331	6240	1670	156	696	1810	1460	287	214	435	23	1250
MIN	6.6	18	79	61	63	99	133	54	22	9.4	5.8	5.4

CAL YR 1983	TOTAL	91751.7	MEAN	251	MAX	7510	MIN	4.9
WTR YR 1984	TOTAL	76784.2	MEAN	210	MAX	6240	MIN	5.4

07017200 BIG RIVER AT IRONDALE, MO--Continued

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984
INSTANTANEOUS OBSERVATIONS AT 0800

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.97	2.12	3.28	2.22	2.20	2.22	2.77	2.62	1.88	1.60	1.39	1.33
2	1.97	2.15	3.18	2.22	2.19	2.30	2.66	2.52	1.84	1.58	1.40	1.33
3	1.96	3.30	3.09	2.19	2.23	2.78	4.13	2.49	1.81	1.59	1.39	1.35
4	1.99	3.70	5.33	2.32	2.25	4.74	4.12	2.45	1.78	1.57	1.47	1.37
5	2.16	2.96	3.75	2.56	2.22	4.30	3.34	2.37	1.76	3.64	1.47	1.34
6	2.17	2.67	3.40	2.50	2.16	3.48	3.00	2.35	1.74	2.26	1.46	1.33
7	2.10	2.53	3.14	2.40	2.10	3.13	2.81	2.37	1.71	2.00	1.42	1.34
8	2.06	2.44	3.00	2.37	2.13	2.98	2.78	3.05	1.70	1.87	1.40	1.32
9	2.04	1.41	2.88	2.35	2.11	2.80	3.53	2.69	1.69	1.79	1.61	1.96
10	2.03	1.38	2.80	2.42	2.22	2.67	3.15	2.50	1.67	1.73	1.52	1.74
11	2.01	1.38	6.15	2.30	2.93	2.60	2.97	2.40	1.72	1.67	1.49	2.59
12	2.06	1.45	3.98	2.20	2.98	2.53	2.89	2.31	1.70	1.66	1.48	2.38
13	2.09	1.51	3.41	2.25	3.94	2.63	2.92	2.24	1.66	1.65	1.44	1.98
14	2.07	1.46	3.37	2.18	3.32	2.84	2.75	2.34	1.63	1.62	1.43	1.81
15	2.04	1.43	3.11	2.17	3.06	2.77	2.71	2.22	1.62	1.58	1.42	1.72
16	2.03	1.39	2.93	2.17	2.91	3.16	2.66	2.17	1.65	1.57	1.40	1.60
17	2.02	2.28	2.82	2.18	2.82	4.47	2.59	2.10	1.65	1.55	1.39	1.54
18	2.02	2.24	2.73	2.14	2.74	3.53	2.52	2.08	1.62	1.53	1.39	1.58
19	2.03	2.23	2.63	2.47	2.71	5.44	2.45	2.04	1.59	1.51	1.39	1.46
20	2.22	5.92	2.73	2.11	2.64	4.17	2.39	1.96	2.20	1.50	1.39	1.54
21	2.87	3.75	2.52	2.11	2.59	3.51	6.08	2.38	2.69	1.48	1.37	1.52
22	2.93	3.24	2.58	2.11	2.56	3.17	4.61	2.09	2.08	1.47	1.42	1.51
23	2.58	13.06	2.74	2.13	2.36	2.97	3.56	2.71	1.98	1.46	1.46	4.81
24	2.43	4.72	2.65	2.16	2.27	2.90	3.17	2.19	2.14	1.43	1.41	2.79
25	2.34	3.92	2.45	2.60	2.22	3.43	2.89	2.03	2.00	1.43	1.39	2.32
26	2.28	3.61	2.37	2.31	2.19	3.11	2.77	2.19	1.83	1.41	1.39	2.30
27	2.25	3.78	2.31	2.29	2.25	3.15	2.67	2.12	1.75	1.41	1.38	2.45
28	2.24	4.64	2.29	2.24	2.25	3.45	2.57	2.10	1.63	1.41	1.36	2.09
29	2.20	3.75	2.18	2.26	2.22	3.77	2.49	2.04	1.62	1.41	1.35	2.05
30	2.18	3.46	2.17	2.28	---	3.18	2.96	1.97	1.60	1.41	1.34	2.00
31	2.17	---	2.22	2.22	---	2.92	---	1.92	---	1.39	1.33	---
MEAN	2.18	3.13	3.04	2.27	2.51	3.26	3.10	2.29	1.89	1.65	1.42	1.88
MAX	2.93	13.06	6.15	2.60	3.94	5.44	6.08	3.05	2.69	3.64	1.61	4.81
MIN	1.96	1.38	2.17	2.11	2.10	2.22	2.39	1.92	1.59	1.39	1.33	1.32

CAL YR 1983	MEAN	2.52	MAX	15.38	MIN	1.38
WTR YR 1984	MEAN	2.38	MAX	13.06	MIN	1.32

07018100 BIG RIVER NEAR RICHWOODS, MO

LOCATION.--Lat 38°09'34", long 90°42'22", in sec.33, T.40 N., R.3 E., Jefferson County, Hydrologic Unit 07140104, on left bank downstream side bridge on State Highway H, 1.8 mi east of Fletcher Mo, 6.8 mi east of Richwoods, and at mile 53.7.

DRAINAGE AREA.--735 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1942 to current year. Prior to May 1949 monthly discharge only, published WSP 1311. Prior to 1984 published as Big River near De Soto, Mo.

GAGE.--Water-stage recorder. Datum of gage is 523.00 ft National Geodetic Vertical Datum of 1929.

REMARKS.--Records good.

AVERAGE DISCHARGE.--36 years, 665 ft³/s, 12.29 in/yr, 481,800 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 55,800 ft³/s June 30, 1957, gage height, 27.15 ft; minimum discharge, 20 ft³/s Sept. 19, 1954; minimum gage height, 1.89 ft Sept. 15, 1956.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of August 1915 reached a stage of about 29.4 ft, from floodmark, 1.0 mi downstream adjusted to gage site by comparison with recorded flood 5.5 ft lower; discharge, 70,500 ft³/s from rating curve extended above 37,000 ft³/s.

EXTREMES FOR CURRENT YEAR.--Peak discharge above base of 8,000 ft³/s and maximum (*):

Date	Time	Discharge (ft³/s)	Gage height (ft)
Nov. 20	1445	13,600	15.54
Nov. 24	1030	*20,500	18.68
Dec. 4	1900	11,600	14.53
Dec. 11	1415	8,860	13.10
Mar. 5	0815	9,370	13.48
Mar. 19	2215	11,100	14.46
Apr. 22	0630	9,920	13.83

Minimum discharge, 92 ft³/s, Sept. 2.

DISCHARGE (CUBIC FEET/SECOND) WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	113	173	869	298	301	486	1270	924	462	210	127	97
2	112	178	724	295	292	534	1100	795	422	204	127	98
3	109	220	901	298	301	755	1590	745	390	198	127	110
4	118	447	8370	301	316	4480	2960	725	366	210	136	110
5	115	748	3550	358	304	7690	2280	680	342	350	143	108
6	113	512	1730	524	262	2850	1490	1130	330	574	138	106
7	110	382	1110	516	250	1640	1200	966	324	478	186	103
8	109	320	855	445	250	1250	1210	1130	312	342	201	98
9	118	282	710	412	241	1030	2150	1050	303	288	924	174
10	125	280	785	430	316	685	1770	840	235	255	324	339
11	129	286	7260	412	532	805	1390	730	288	237	216	800
12	146	280	5140	424	775	740	1270	650	291	243	180	948
13	149	264	1320	382	2450	730	1360	618	285	219	158	538
14	140	247	1330	313	1770	785	1150	622	273	201	145	338
15	139	233	1120	286	1200	966	1010	598	279	192	135	255
16	146	221	855	271	960	1050	948	546	354	189	127	207
17	151	207	688	265	835	1630	912	506	330	178	121	178
18	142	201	600	262	755	2460	840	478	297	170	119	166
19	137	742	532	259	700	8710	755	458	276	163	118	154
20	384	10300	468	256	638	7560	710	454	291	158	117	145
21	1160	4340	472	250	586	2790	4920	558	306	152	111	141
22	976	1250	472	277	554	1790	8360	506	486	149	127	180
23	822	6220	457	253	534	1350	3540	1910	418	145	170	5080
24	553	15900	442	283	502	1430	2050	936	370	141	157	2370
25	304	2550	403	421	450	2450	1490	670	418	136	138	822
26	247	1240	394	448	434	1880	1230	1560	321	147	127	739
27	219	2390	361	403	466	1600	1060	875	285	237	118	738
28	190	5690	352	361	498	4060	930	770	261	156	113	548
29	186	2090	385	346	494	5910	850	642	240	143	110	423
30	183	1170	340	343	---	2420	880	542	225	136	105	340
31	175	---	325	325	---	1580	---	506	---	127	101	---
TOTAL	7840	59363	43920	10717	17966	74296	52675	24120	9830	6728	5246	16453
MEAN	253	1979	1417	346	620	2397	1756	778	328	217	169	548
MAX	1180	15900	8370	524	2450	8710	8360	1910	486	574	924	5080
MIN	109	173	325	250	241	486	710	454	225	127	101	97

WTR YR 1984 TOTAL 329154 MEAN 899 MAX 15900 MIN 97

07018100 BIG RIVER NEAR RICHWOODS, MO--Continued

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984
INSTANTANEOUS OBSERVATIONS AT 0800

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.22	3.49	5.46	3.94	3.97	4.06	5.67	5.14	4.04	3.30	2.97	2.79
2	3.21	3.51	5.13	3.94	3.93	4.15	5.35	4.81	3.93	3.28	2.97	2.77
3	3.20	3.61	5.01	3.98	3.96	4.61	5.81	4.71	3.85	3.26	2.97	2.85
4	3.19	4.01	13.56	3.95	4.02	6.73	7.91	4.65	3.79	3.27	2.97	2.85
5	3.49	5.27	9.45	4.07	3.97	13.44	7.27	4.57	3.72	3.58	3.04	2.85
6	3.59	4.68	6.75	4.51	3.88	8.10	6.09	5.80	3.70	3.84	3.00	2.83
7	3.48	4.30	5.09	4.64	3.98	6.30	5.55	5.04	3.67	4.13	3.37	2.82
8	3.42	4.05	5.46	4.46	3.89	5.63	5.36	5.38	3.64	3.76	3.31	2.78
9	3.35	3.91	5.17	4.34	3.77	5.27	7.00	5.31	3.61	3.59	3.12	3.01
10	3.31	3.89	4.93	4.37	3.88	4.99	6.49	4.92	3.56	3.47	3.74	3.92
11	3.30	3.93	12.66	4.36	4.73	4.81	5.87	4.69	3.55	3.38	3.31	3.88
12	3.32	3.90	11.43	4.41	4.97	4.68	5.58	4.52	3.58	3.42	3.15	4.95
13	3.37	3.84	7.32	4.19	6.97	4.66	5.87	4.40	3.55	3.34	3.08	4.29
14	3.37	3.79	6.28	3.99	6.58	4.71	5.45	4.44	3.52	3.27	3.01	3.73
15	3.34	3.74	6.00	3.94	5.55	5.10	5.20	4.40	3.48	3.24	2.96	3.44
16	3.35	3.70	5.47	3.89	5.12	5.24	5.10	4.25	3.66	3.23	2.93	3.27
17	3.35	3.65	5.12	3.92	4.90	5.58	5.03	4.15	3.71	3.19	2.90	3.17
18	3.35	3.62	4.88	3.86	4.73	7.69	4.89	4.08	3.59	3.16	2.89	3.12
19	3.36	3.60	4.80	2.11	4.62	13.02	4.73	4.02	3.52	3.13	2.89	3.05
20	3.70	15.06	4.55	3.98	4.51	13.41	4.61	3.99	3.50	3.11	2.88	3.02
21	5.00	10.01	4.52	2.17	4.34	8.01	6.16	4.38	3.65	3.08	2.86	3.00
22	4.70	6.28	4.65	4.04	4.27	6.56	13.77	4.14	4.36	3.07	2.87	2.99
23	4.45	6.60	4.43	3.77	4.21	5.82	8.86	7.51	3.94	3.05	3.09	9.90
24	3.98	18.60	4.44	3.88	4.15	5.49	6.92	5.14	3.83	3.03	3.07	7.50
25	3.40	8.01	2.41	4.21	4.01	7.46	6.06	4.56	4.00	3.01	2.97	4.88
26	3.23	6.23	4.34	4.43	3.95	6.67	5.60	6.81	3.68	3.00	2.93	4.73
27	3.12	6.17	4.18	4.33	4.01	6.05	5.30	4.98	3.56	3.53	2.89	4.69
28	3.00	11 93	4.12	4.19	4.13	6.78	5.08	4.79	3.48	3.11	2.86	4.30
29	2.98	7.65	4.21	4.12	4.11	11.44	4.90	4.52	3.41	3.05	2.85	3.96
30	2.96	6.09	2.20	4.11	---	7.47	4.94	4.30	3.35	3.01	2.83	3.74
31	2.94	---	4.08	4.06	---	6.18	---	4.15	---	2.97	2.80	---
MEAN	3.45	5.90	5.77	4.01	4.45	6.78	6.08	4.79	3.68	3.29	3.02	3.84
MAX	5.00	18.60	13.56	4.64	6.97	13.44	13.77	7.51	4.36	4.13	3.74	9.90
MIN	2.94	3.49	2.20	2.11	3.77	4.06	4.61	3.99	3.35	2.97	2.80	2.77

WTR YR 1984 MEAN 4.59 MAX 18.60 MIN 2.11

07018100 BIG RIVER NEAR RICHWOODS, MO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--November 1933 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS) (00061)	SPE-CIFIC CON-DUCT-ANCE (UMHOS) (00095)	PH (STAND-ARD UNITS) (00400)	TEMPER-ATURE (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L) (00340)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./100 ML) (31625)	HARD-NESS (MG/L AS CACO3) (00900)
NOV										
17...	0930	201	483	8.1	7.5	12.4	102	--	4	270
DEC										
20...	1445	442	380	7.8	1.0	14.0	96	<10	38	--
JAN										
18...	0930	203	450	7.8	.5	13.8	93	<10	5	250
FEB										
23...	0830	538	410	8.0	7.0	12.2	100	--	13	--
MAR										
21...	0815	2890	247	7.7	5.5	11.8	93	18	840	--
APR										
19...	0815	750	393	8.2	12.5	10.4	96	<10	14	200
MAY										
10...	0800	855	355	7.8	14.5	7.4	71	12	200	--
JUN										
20...	0800	258	499	8.0	26.0	6.0	73	14	60	--
JUL										
18...	0800	170	510	8.1	24.0	6.6	77	18	34	260
AUG										
15...	0815	132	483	7.7	22.0	5.6	63	100	170	--
SEP										
19...	0815	154	461	7.8	11.0	8.7	77	40	59	--

DATE	HARD-NESS, NONCAR-BONATE (MG/L CACO3) (00902)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ALKA-LINITY FIELD (MG/L AS CACO3) (00410)	CARBON DIOXIDE DIS-SOLVED (MG/L AS CO2) (00405)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)
NOV										
17...	51	54	33	5.5	1.7	220	3.4	48	6.9	<.10
DEC										
20...	--	--	--	--	--	172	5.3	--	--	--
JAN										
18...	47	49	30	4.6	1.3	199	6.1	41	6.1	.20
FEB										
23...	--	--	--	--	--	170	3.3	--	--	--
MAR										
21...	--	--	--	--	--	109	4.2	--	--	--
APR										
19...	34	41	24	3.6	1.2	167	2.0	32	4.5	<.10
MAY										
10...	--	--	--	--	--	173	5.3	--	--	--
JUN										
20...	--	--	--	--	--	212	4.1	--	--	--
JUL										
18...	25	50	32	5.3	1.7	232	3.5	42	6.3	.20
AUG										
15...	--	--	--	--	--	206	7.9	--	--	--
SEP										
19...	--	--	--	--	--	206	6.3	--	--	--

07018100 BIG RIVER NEAR RICHWOODS, MO--Continued

DATE	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L) (00530)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	PHOS-PHORUS, TOTAL (MG/L AS P) (00665)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD) (01027)	CADMIUM DIS-SOLVED (UG/L AS CD) (01025)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)
NOV										
17...	287	--	--	--	--	1	1	7	<1	280
DEC										
20...	--	3	.90	.040	.010	--	--	--	--	--
JAN										
18...	267	<1	.60	<.010	.020	1	2	10	1	190
FEB										
23...	--	14	.40	.030	.010	--	--	--	--	--
MAR										
21...	--	106	.50	.020	.060	--	--	--	--	--
APR										
19...	214	14	.30	.040	.050	<1	1	4	2	190
MAY										
10...	--	2	.20	.030	.020	--	--	--	--	--
JUN										
20...	--	16	.10	<.010	.020	--	--	--	--	--
JUL										
18...	291	7	<.10	.020	.010	<1	<1	7	4	170
AUG										
15...	--	4	<.10	.020	.040	--	--	--	--	--
SEP										
19...	--	7	.20	<.010	.030	--	--	--	--	--

DATE	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB) (01051)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG) (71900)	MERCURY DIS-SOLVED (UG/L AS HG) (71890)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN) (01092)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)
NOV									
17...	60	11	3	30	20	.1	<.1	110	20
DEC									
20...	--	--	--	--	--	--	--	--	--
JAN									
18...	60	17	9	60	38	.2	<.1	100	92
FEB									
23...	--	--	--	--	--	--	--	--	--
MAR									
21...	--	--	--	--	--	--	--	--	--
APR									
19...	12	32	6	50	30	<.1	<.1	50	43
MAY									
10...	--	--	--	--	--	--	--	--	--
JUN									
20...	--	--	--	--	--	--	--	--	--
JUL									
18...	5	17	<1	50	24	.1	<.1	20	18
AUG									
15...	--	--	--	--	--	--	--	--	--
SEP									
19...	--	--	--	--	--	--	--	--	--

07018500 BIG RIVER AT BYRNESVILLE, MO

LOCATION.--Lat 38°23'30", long 90°38'16", in SE¼ sec.12, T.42 N., R.3 E., Jefferson County, Hydrologic Unit 07140104, on right bank on downstream side of pier of privately owned bridge at Byrnesville, 4.0 mi upstream from Heads Creek, at at mile 14.1.

DRAINAGE AREA.--917 mi^2.

PERIOD OF RECORD.--October 1921 to current year. Prior to June 1922 monthly discharge only, published WSP 1311.

REVISED RECORDS.--WSP 667: 1927. WSP 877: 1938. WSP 1007: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 433.69 ft National Geodetic Vertical Datum of 1929. Prior to Mar. 9, 1940, nonrecording gage at present site and datum.

REMARKS.--Records good. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--63 years, 838 ft^3/s, 12.41 in/yr, 607,100 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 42,800 ft^3/s May 2, 1983, gage height, 26.42 ft; minimum discharge, 25 ft^3/s Aug. 30, 1936.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Aug. 21, 1915, reached a stage of 30.2 ft from floodmarks, discharge, 80,000 ft^3/s, by slope-area measurement of peak flow.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 7,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 21	1300	9,380	16.29
Nov. 25	1130	*15,000	19.33
Dec. 5	1030	8,550	15.68
Dec. 12	0430	7,820	15.07
Mar. 5	2145	7,940	15.17
Mar. 20	1545	8,990	16.01
Apr. 22	2100	8,390	15.55

Minimum discharge, 122 ft^3/s Sept. 1.

DISCHARGE (CUBIC FEET/SECOND) WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	134	203	1560	452	500	703	1770	1040	555	242	153	125
2	130	211	1210	438	471	796	1460	996	502	233	150	126
3	126	325	1440	430	469	1040	1810	887	459	225	152	135
4	128	378	4800	438	474	3020	2890	834	425	229	149	133
5	131	533	7390	486	480	7120	3100	809	398	253	148	134
6	170	806	2910	679	452	5210	2170	1140	379	336	154	130
7	214	605	2020	895	388	2520	1670	1480	362	536	151	128
8	192	474	1500	839	383	1800	1610	1380	350	457	176	126
9	178	395	1190	737	393	1430	2080	1340	338	350	202	150
10	166	368	1220	689	590	1190	2390	1120	321	299	766	173
11	155	349	5380	716	737	1050	1880	930	311	271	360	1100
12	155	351	7160	637	999	957	1580	816	306	255	242	970
13	149	349	3730	575	1780	899	1550	749	308	253	206	871
14	157	328	2400	530	2390	901	1480	723	318	234	185	560
15	158	304	1940	483	1610	1240	1280	702	320	251	169	375
16	152	285	1550	443	1240	1430	1180	656	379	261	159	291
17	149	270	1220	405	1010	1760	1100	591	387	212	151	247
18	148	258	1020	397	907	2630	1040	547	350	202	146	218
19	152	764	856	373	828	4690	936	515	312	191	143	201
20	899	4660	761	337	761	8520	855	494	292	184	140	189
21	1340	8290	747	339	703	4720	2210	494	295	181	139	181
22	1150	2600	696	346	650	2550	7270	587	314	177	155	202
23	930	3730	634	393	612	1890	5790	866	460	175	146	1100
24	689	8900	530	411	578	2410	2880	1570	419	168	165	4090
25	500	12500	506	477	533	3390	2140	1030	373	165	173	1490
26	390	2590	489	640	553	2760	1640	1840	400	161	157	920
27	323	3580	538	713	768	2230	1380	1470	333	162	148	819
28	282	5480	544	634	743	3240	1190	1020	295	239	143	806
29	254	4490	494	581	713	5930	1060	864	272	182	138	605
30	233	2210	457	556	---	3870	1010	732	255	169	133	481
31	214	---	438	530	---	2320	---	630	---	158	130	---
TOTAL	10148	66586	57330	16599	22715	84816	60401	28852	10788	7411	5729	17076
MEAN	327	2220	1849	535	783	2736	2013	931	360	239	185	569
MAX	1340	12500	7390	895	2390	8520	7270	1840	555	536	766	4090
MIN	126	203	438	337	383	703	855	494	255	158	130	125

CAL YR 1983	TOTAL	462167	MEAN	1266	MAX	40100	MIN	109
WTR YR 1984	TOTAL	388451	MEAN	1061	MAX	12500	MIN	125

07018500 BIG RIVER AT BYRNESVILLE, MO--Continued

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984
INSTANTANEOUS OBSERVATIONS AT 0800

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.69	3.19	6.97	4.22	4.40	4.94	7.36	5.73	4.56	---	2.65	2.44
2	2.66	3.29	6.30	4.17	4.29	5.14	6.75	5.75	---	---	2.63	2.42
3	2.63	3.19	5.93	4.16	4.27	5.71	7.09	5.47	---	---	2.63	2.52
4	2.66	3.93	10.33	4.17	4.28	9.89	8.98	5.33	---	---	2.62	2.50
5	2.66	4.07	15.55	4.25	4.32	14.16	9.79	5.26	---	---	2.61	2.49
6	2.80	5.41	9.46	4.83	4.24	13.31	8.14	5.42	---	3.48	2.66	2.48
7	3.24	4.77	7.80	5.40	4.07	8.82	7.14	6.77	---	4.40	2.65	2.46
8	3.09	4.34	6.85	5.38	4.04	7.46	6.71	6.54	---	4.27	2.71	2.43
9	3.00	4.05	6.27	5.08	4.06	6.72	7.46	6.43	---	3.79	3.02	2.62
10	2.92	3.95	5.85	4.95	4.66	6.23	8.63	6.05	---	3.53	6.02	2.70
11	2.84	3.85	11.89	4.96	5.01	5.91	7.55	5.60	---	3.38	3.91	6.71
12	2.85	3.87	15.00	4.80	5.55	5.65	6.97	5.31	---	3.28	3.24	4.68
13	2.80	3.86	10.87	4.61	6.50	5.52	6.84	5.12	---	3.26	3.03	5.49
14	2.84	3.78	8.53	4.52	8.73	5.45	6.83	5.02	---	3.18	2.90	4.68
15	2.86	3.68	7.67	4.36	7.14	6.22	6.35	4.97	---	3.10	2.77	3.93
16	2.82	3.59	7.00	4.19	6.28	6.72	6.10	4.87	---	3.26	2.70	3.51
17	2.80	3.52	6.31	4.07	5.81	7.14	5.96	4.66	---	3.05	2.65	3.26
18	2.79	3.46	5.85	4.00	5.53	8.54	5.83	4.51	---	2.97	2.60	3.09
19	2.78	3.40	5.53	4.05	5.34	10.37	5.60	4.40	---	2.92	2.58	2.98
20	5.06	9.43	5.15	3.84	5.17	15.66	5.40	4.32	---	2.87	2.55	2.90
21	6.23	15.97	5.06	3.83	5.01	12.25	6.57	4.28	---	2.85	2.54	2.84
22	6.18	8.88	5.01	3.80	4.85	8.83	14.28	4.70	---	2.82	2.69	2.80
23	5.69	10.21	4.94	4.02	4.73	7.60	14.08	4.44	---	2.79	2.59	4.60
24	5.04	15.11	4.48	4.02	4.64	6.96	9.41	7.30	---	2.75	2.68	11.97
25	4.45	19.15	4.44	4.29	4.52	9.94	7.97	5.57	---	2.73	2.82	6.94
26	4.06	8.70	4.32	4.66	4.40	9.15	7.13	7.29	---	2.72	2.70	5.45
27	3.79	8.67	4.50	5.06	5.19	8.18	6.59	6.90	---	2.68	2.62	5.31
28	3.59	12.18	4.53	4.79	5.10	8.52	6.19	5.79	---	3.38	2.57	5.37
29	3.45	12.45	4.39	4.63	5.01	13.05	5.87	5.45	---	2.86	2.53	4.76
30	3.34	8.26	4.24	4.58	---	11.08	5.76	5.09	---	2.76	2.50	4.33
31	3.26	---	4.14	4.48	---	8.43	---	4.79	---	2.69	2.47	---
MEAN	3.48	6.74	6.94	4.46	5.07	8.50	7.51	5.46	---	---	2.83	4.02
MAX	6.23	19.15	15.55	5.40	8.73	15.66	14.28	7.30	---	---	6.02	11.97
MIN	2.63	3.19	4.14	3.80	4.04	4.94	5.40	4.28	---	---	2.47	2.42

CAL YR 1983 MEAN 5.16 MAX 26.01 MIN 2.54

07019000 MERAMEC RIVER NEAR EUREKA, MO

LOCATION.--Lat 38°30'20", long 90°35'30", in SE¼ sec.32, T.44 N., R.4 E., St. Louis County Hydrologic Unit 07140102, on right bank, 44 ft upstream from bridge on north access roadway of I-44, 2.0 mi east of Eureka, 3.0 mi downstream from Big River, and at mile 3[illegible].1.

DRAINAGE AREA.--3,788 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--August 1903 to July 1906, October 1921 to current year. Monthly discharge only for January, February, and March 1904, published in WSP 1311.

REVISED RECORDS.--WSP 877: 1938(M). WSP 977: 1942. WSP 1007: Drainage area. WSP 1281: 1924-25.

GAGE.--Water-stage recorder. Datum of gage is 404.18 ft National Geodetic Vertical Datum of 1929. Prior to Jan. 17, 1933, nonrecording gage at site 200 ft upstream at different datum. Jan. 17, 1933, to Sept 22, 1937, nonrecording gage, and Sept. 23, 1937, to Sept. 30, 1971, water-stage recorder at present site at datum 2.00 ft higher.

REMARKS.--Records good.

AVERAGE DISCHARGE.--65 years, 3,080 ft³/s, 11.04 in/yr, 2,231,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 145,000 ft³/s Dec. 6, 1982, gage height, 42.89 ft; minimum, 196 ft³/s Aug. 27, 31, Sept. 1, 1936.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Aug. 22, 1915, reached a stage of 42.2 ft, from floodmarks, present datum, discharge, 175,000 ft³/s, by slope-area measurement of peak flow.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 17,000 ft³/s and maximum (*):

Date	Time	Discharge (ft³/s)	Gage height (ft)
Nov. 21	2345	17,400	12.71
Nov. 25	2230	26,700	17.35
Dec. 5	2115	22,200	15.08
Mar. 7	2145	27,600	17.74
Mar. 21	0600	26,300	17.16
Mar. 29	2345	20,100	14.04
Apr. 23	1545	*28,300	18.09

Minimum discharge, 463 ft³/s, Sept. 2.

DISCHARGE (CUBIC FEET/SECOND) WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	606	1350	6580	3920	2010	3220	9580	4150	2590	981	587	479
2	593	1520	5080	3770	1950	3620	7090	3980	2310	935	579	488
3	580	1710	4660	3740	1920	4530	7280	3720	2090	898	572	574
4	585	2450	11700	3650	1890	11000	12200	3420	1940	907	558	565
5	588	6730	20100	3240	1860	22000	16100	3260	1790	1020	551	534
6	604	13500	19700	3330	1800	26100	13800	3350	1690	1190	551	511
7	765	7810	11400	3460	1720	26800	9530	4550	1620	2400	543	489
8	902	4260	6970	3700	1650	21900	7600	4960	1550	2640	551	497
9	923	3260	5420	4430	1630	8640	8750	5160	1500	2060	631	604
10	843	2870	4620	4290	2100	6530	12000	5080	1450	1630	1050	689
11	775	2590	10200	4580	2680	5530	10900	4240	1390	1390	953	4000
12	778	2390	14700	4910	3200	4720	7880	3640	1360	1250	775	4350
13	788	2470	16200	3400	4680	4320	6650	3290	1360	1180	710	4410
14	778	2410	12400	2710	9270	4070	6180	3120	1380	1100	670	3970
15	783	2160	8580	2420	7410	5100	5670	2930	1800	1020	647	2650
16	783	1950	6730	2190	5220	6560	5030	2760	1810	1120	586	1980
17	870	1790	5490	1960	4260	9000	4640	2580	2260	1100	561	2630
18	866	1680	4540	1840	3690	12200	4450	2440	2070	944	554	1190
19	891	1860	3790	1510	3380	18200	4150	2320	2150	862	536	1150
20	2530	7410	3300	1560	3090	25200	3790	2250	1740	817	519	1120
21	7980	14100	3120	2810	3010	26000	5860	2190	1500	783	513	1130
22	8290	14500	2870	3980	2800	22700	19100	2250	1400	766	550	1680
23	8560	11700	2560	3300	2550	10500	27600	2280	1570	734	587	1440
24	6430	15800	3480	2430	2370	8480	27800	3310	1710	701	561	5370
25	4020	23600	7200	2030	2210	15300	18400	2720	1500	678	611	3860
26	2920	18800	6640	2040	2190	17500	9830	4960	1430	670	594	3500
27	2370	12100	6280	2210	2890	17100	7250	7440	1320	638	578	2650
28	2000	14900	5980	2190	3070	13600	5960	5940	1210	670	554	2750
29	1720	13400	5310	2180	3100	18400	5100	3970	1100	670	535	2270
30	1550	9720	4500	2160	---	19500	4560	3380	1020	631	515	2050
31	1450	---	4110	2080	---	15800	---	2970	---	609	493	---
TOTAL	64121	220790	234210	92020	89600	414120	294730	112610	49610	33194	18775	59580
MEAN	2068	7360	7555	2968	3090	13360	9824	3633	1654	1071	606	1986
MAX	8560	23600	20100	4910	9270	26800	27800	7440	2590	2840	1050	5370
MIN	580	1350	2560	1510	1630	3220	3790	2190	1020	609	493	479

CAL YR 1983	TOTAL	1712481	MEAN	4692	MAX	94700	MIN	495
WTR YR 1984	TOTAL	1583360	MEAN	4599	MAX	27800	MIN	479

07019000 MERAMEC RIVER NEAR EUREKA, MO--Continued

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984
INSTANTANEOUS OBSERVATIONS AT 0800

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.33	3.08	7.11	5.21	3.68	4.64	8.94	5.36	4.19	2.89	2.52	2.39
2	2.32	3.09	6.05	5.07	3.62	4.88	7.37	5.21	3.95	2.86	2.50	2.38
3	2.29	3.35	5.51	4.82	3.58	5.48	6.97	5.06	3.76	2.83	2.49	2.47
4	2.30	4.09	9.33	5.00	3.56	7.50	9.66	4.82	3.62	2.81	2.49	2.50
5	2.30	5.52	13.70	4.69	3.55	14.50	12.11	4.70	3.52	2.92	2.47	2.46
6	2.31	10.87	14.33	4.76	3.50	17.17	11.24	4.64	3.44	3.02	2.47	2.43
7	2.48	8.16	10.20	4.77	3.43	17.23	8.92	5.54	3.39	3.50	2.47	2.41
8	2.63	5.54	7.35	4.67	3.34	16.99	7.45	5.88	3.34	4.50	2.47	2.40
9	2.68	4.75	6.30	5.48	3.32	8.30	7.95	6.01	3.31	3.77	2.54	2.51
10	2.60	4.41	5.64	5.52	3.55	7.03	9.83	6.67	3.27	3.43	2.59	2.62
11	2.53	4.18	8.89	5.28	4.16	6.27	9.74	5.47	3.23	3.24	2.90	4.53
12	2.52	3.98	11.09	6.14	4.50	5.74	7.34	5.02	3.19	3.13	2.71	5.18
13	2.54	4.00	12.33	4.92	5.39	5.49	7.04	4.74	3.18	3.06	2.65	5.64
14	2.52	4.05	10.59	4.29	8.44	5.25	6.71	4.60	3.20	3.00	2.61	5.37
15	2.53	3.82	8.30	4.05	7.71	5.73	6.44	4.45	3.53	2.93	2.56	4.32
16	2.53	3.64	7.15	3.84	6.17	6.48	5.97	4.31	3.33	3.05	2.52	3.66
17	2.61	3.49	6.35	3.61	5.48	7.17	5.68	4.17	3.84	3.04	2.49	---
18	2.60	3.38	5.68	3.53	5.05	9.11	5.56	4.05	3.73	2.89	2.48	---
19	2.60	3.29	5.17	3.13	4.82	11.60	5.37	3.94	3.87	2.79	2.46	---
20	3.05	7.06	4.63	3.26	4.56	15.35	5.10	3.87	3.51	2.74	2.44	---
21	7.73	10.37	4.58	4.32	4.49	17.16	5.26	3.82	3.32	2.72	2.43	---
22	7.56	11.83	4.42	5.29	4.36	16.65	12.61	3.85	3.24	2.69	2.45	---
23	8.26	8.81	4.16	4.89	4.14	9.49	17.75	3.90	3.27	2.67	2.53	---
24	7.15	11.25	4.55	4.26	3.39	7.40	18.07	5.04	3.50	2.64	2.48	---
25	5.39	15.12	7.45	3.69	3.86	11.66	14.35	4.21	3.30	2.62	2.54	---
26	4.50	14.73	6.90	3.57	3.76	12.57	9.07	5.92	3.24	2.61	2.53	---
27	4.03	8.62	6.77	3.83	4.33	13.27	7.47	7.30	3.19	2.57	2.51	---
28	3.71	11.54	6.60	3.82	4.54	10.04	6.63	6.85	3.08	2.58	2.48	---
29	3.43	11.04	6.12	3.81	4.55	12.90	6.03	5.30	3.01	2.62	2.46	---
30	3.27	9.10	5.56	3.81	---	13.86	5.65	4.82	2.94	2.57	2.44	---
31	3.16	---	5.26	3.73	---	12.64	---	4.51	---	2.54	2.41	---
MEAN	3.50	6.87	7.35	4.43	4.46	10.31	8.63	4.95	3.42	2.94	2.52	---
MAX	8.26	15.12	14.33	6.14	8.44	17.23	18.07	7.30	4.19	4.50	2.90	---
MIN	2.29	3.08	4.16	3.13	3.32	4.64	5.10	3.82	2.94	2.54	2.41	---

CAL YR 1983 MEAN 5.08 MAX 36.63 MIN 2.19

07019000 MERAMEC RIVER NEAR EUREKA, MO--Continued
(National stream-quality accounting network station)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--January 1978 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: January 1978 to September 1981.
WATER TEMPERATURE: January 1978 to September 1981.
SUSPENDED-SEDIMENT: February 1969 to September 1970, October 1980 to May 1981, November 1981 to current year.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum daily, 660 micromhos June 11, 1980; minimum daily, 136 micromhos March 27, 1978.
WATER TEMPERATURE: Maximum daily, 32.0°C July 1, 9, 1978; minimum daily, 0.0°C many days during winter periods.
SUSPENDED-SEDIMENT CONCENTRATIONS: Maximum daily mean, 2,910 mg/L January 31, 1982; minimum daily mean, 2 mg/L December 10, 13, 16, 17, and 20, 1980.
SUSPENDED-SEDIMENT LOADS: Maximum daily, 380,000 tons December 5, 1982; minimum daily, 3.2 tons December 20, 1980.

EXTREMES FOR CURRENT YEAR.--
SUSPENDED SEDIMENT CONCENTRATIONS: Maximum daily mean, 1,980 mg/L March 5; minimum daily mean, 6 mg/L October 2 and 6, January 1 and 2, February 7.
SUSPENDED SEDIMENT LOADS.--Maximum daily, 118,000 tons March 5; minimum daily, 10 tons October 2 and 5.

WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS) (00061)	SPECIFIC CONDUCTANCE (UMHOS) (00095)	PH (STANDARD UNITS) (00400)	TEMPERATURE (DEG C) (00010)	TURBIDITY (NTU) (00076)	OXYGEN, DISSOLVED (MG/L) (00300)	OXYGEN, DISSOLVED (PERCENT SATURATION) (00301)	COLIFORM, FECAL, 0.7 UM-MF (COLS./100 ML) (31625)	STREPTOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)
NOV										
16...	1330	1860	299	7.9	10.5	4.9	11.2	98	42	60
JAN										
17...	1345	1990	299	7.8	.5	8.8	14.2	95	76	94
MAR										
20...	1300	23600	175	7.8	5.5	150	11.4	90	3300	3700
MAY										
09...	1300	6650	286	7.8	14.5	7.9	7.8	74	160	K22
JUL										
17...	1430	917	344	8.2	28.0	5.2	6.8	85	84	88
SEP										
18...	1415	935	318	7.8	20.0	20	5.6	60	92	110

DATE	HARDNESS (MG/L AS CACO3) (00900)	HARDNESS, NONCARBONATE (MG/L CACO3) (00902)	CALCIUM DISSOLVED (MG/L AS CA) (00915)	MAGNESIUM, DISSOLVED (MG/L AS MG) (00925)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	PERCENT SODIUM (00932)	SODIUM ADSORPTION RATIO (00931)	POTASSIUM, DISSOLVED (MG/L AS K) (00935)	ALKALINITY FIELD (MG/L AS CACO3) (00410)	SULFATE DISSOLVED (MG/L AS SO4) (00945)
NOV										
16...	170	31	35	20	4.2	5	.1	1.7	139	18
JAN										
17...	170	37	35	20	5.0	6	.2	1.5	133	24
MAR										
20...	88	15	19	9.8	3.3	7	.2	1.9	73	19
MAY										
09...	150	19	31	17	3.7	5	.1	1.6	129	18
JUL										
17...	180	27	36	21	3.9	5	.1	1.6	150	16
SEP										
18...	170	24	35	19	4.4	5	.2	2.5	142	20

K--Results based on colony count outside the acceptable range (non-ideal colony count).

DATE	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)	FLUORIDE, DISSOLVED (MG/L AS F) (00950)	SILICA, DISSOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L) (70301)	SOLIDS, DISSOLVED (TONS PER AC-FT) (70303)	SOLIDS, DISSOLVED (TONS PER DAY) (70302)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N) (00631)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N) (00608)
NOV 16...	5.5	<.10	8.3	183	180	.25	919	.57	.010
JAN 17...	6.4	<.10	7.2	181	180	.25	973	.70	.030
MAR 20...	3.5	<.10	7.3	114	110	.16	7260	.15	.050
MAY 09...	4.2	.10	6.0	161	160	.22	2890	.25	.060
JUL 17...	4.9	.10	6.9	176	180	.24	436	.14	.010
SEP 18...	5.4	.10	9.6	185	180	.25	467	.54	.060

DATE	NITROGEN, AMMONIA DISSOLVED (MG/L AS NH4) (71846)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N) (00625)	PHOSPHORUS, TOTAL (MG/L AS P) (00665)	PHOSPHORUS TOTAL (MG/L AS PO4) (71886)	PHOSPHORUS, DISSOLVED (MG/L AS P) (00666)	PHOSPHORUS, ORTHO, DISSOLVED (MG/L AS P) (00671)	SEDIMENT, SUSPENDED (MG/L) (80154)	SEDIMENT, DISCHARGE, SUSPENDED (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. %FINER THAN .062 MM (70331)
NOV 16...	.01	.60	.040	.12	.010	<.010	25	126	89
JAN 17...	.04	.60	.010	.03	.010	<.010	48	258	67
MAR 20...	.06	.80	.160	.49	.020	.040	395	25200	90
MAY 09...	.08	.70	.030	.09	.010	.010	265	4760	13
JUL 17...	.01	.20	.020	--	.010	<.010	46	114	63
SEP 18...	.08	.40	.060	--	.030	.040	51	129	74

DATE	ALUMINUM, DISSOLVED (UG/L AS AL) (01106)	ARSENIC DISSOLVED (UG/L AS AS) (01000)	BARIUM, DISSOLVED (UG/L AS BA) (01005)	BERYLLIUM, DISSOLVED (UG/L AS BE) (01010)	CADMIUM DISSOLVED (UG/L AS CD) (01025)	CHROMIUM, DISSOLVED (UG/L AS CR) (01030)	COBALT, DISSOLVED (UG/L AS CO) (01035)	COPPER, DISSOLVED (UG/L AS CU) (01040)	IRON, DISSOLVED (UG/L AS FE) (01046)	LEAD, DISSOLVED (UG/L AS PB) (01049)
NOV 16...	30	<1	130	<.5	<1	<1	<3	<1	41	2
JAN 17...	60	<1	130	<.5	<1	<1	<3	<1	46	<1
MAY 09...	40	<1	130	<.5	<1	1	<3	5	32	<1
JUL 17...	<10	<1	150	1.0	<1	<1	<3	3	7	<1

DATE	LITHIUM DISSOLVED (UG/L AS LI) (01130)	MANGANESE, DISSOLVED (UG/L AS MN) (01056)	MERCURY DISSOLVED (UG/L AS HG) (71890)	MOLYBDENUM, DISSOLVED (UG/L AS MO) (01060)	NICKEL, DISSOLVED (UG/L AS NI) (01065)	SELENIUM, DISSOLVED (UG/L AS SE) (01145)	SILVER, DISSOLVED (UG/L AS AG) (01075)	STRONTIUM, DISSOLVED (UG/L AS SR) (01080)	VANADIUM, DISSOLVED (UG/L AS V) (01085)	ZINC, DISSOLVED (UG/L AS ZN) (01090)
NOV 16...	20	26	<.1	<10	<1	<1	<1	52	<6	9
JAN 17...	5	41	<.1	<10	3	<1	<1	58	<6	15
MAY 09...	6	19	<.1	<10	6	<1	<1	54	<6	18
JUL 17...	<4	10	.1	<10	2	<1	<1	52	<6	10

07019000 MERAMEC RIVER NEAR EUREKA, MO--Continued

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT

DATE	STREAM-FLOW, INSTANTANEOUS (CFS) (00061)	SED. SUSP. FALL DIAM. % FINER THAN .002 MM (70337)	SED. SUSP. FALL DIAM. % FINER THAN .004 MM (70338)	SED. SUSP. FALL DIAM. % FINER THAN .008 MM (70339)	SED. SUSP. FALL DIAM. % FINER THAN .016 MM (70340)	SED. SUSP. FALL DIAM. % FINER THAN .062 MM (70342)	SED. SUSP. FALL DIAM. % FINER THAN .125 MM (70343)	SED. SUSP. FALL DIAM. % FINER THAN .250 MM (70344)	SED. SUSP. FALL DIAM. % FINER THAN .500 MM (70345)	SED. SUSP. FALL DIAM. % FINER THAN 1.00 MM (70346)
NOV , 1983										
02...	1240	--	--	--	--	96	--	--	--	--
MAR , 1984										
19...	16200	38	42	45	59	94	96	99	100	--
APR										
23...	28100	36	44	47	67	89	91	97	100	100

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DAY	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		OCTOBER			NOVEMBER			DECEMBER	
1	666	12	19	1350	16	57	6580	91	1610
2	593	6	10	1520	57	235	5060	113	1550
3	580	13	20	1710	87	401	4660	118	14[illegible]
4	585	9	14	2450	91	600	11700	213	6740
5	588	6	10	6730	268	8350	20100	250	13600
6	604	8	13	13500	272	13500	19700	48	2540
7	765	10	22	7810	98	2070	11400	47	1450
8	902	10	24	4260	86	990	6970	55	1040
9	923	11	26	3260	73	644	5420	36	529
10	843	12	27	2670	51	398	4620	41	514
11	775	14	29	2590	58	407	10200	112	3080
12	778	18	38	2390	58	372	14700	130	5150
13	788	17	36	2470	61	405	16200	109	4770
14	778	13	27	2410	68	445	12400	74	2480
15	783	10	21	2160	54	318	8580	55	1260
16	783	11	23	1950	46	244	6730	46	831
17	870	12	29	1790	45	218	5490	33	495
18	866	10	24	1680	53	239	4540	23	288
19	891	15	36	1860	65	326	3790	16	164
20	2530	133	2040	7410	232	6380	3300	14	128
21	7980	300	9270	14100	354	17600	3120	13	107
22	8290	168	3750	14500	175	6860	2870	10	79
23	8560	173	4000	11700	189	7970	2560	9	59
24	6430	105	1820	15800	295	17100	3480	14	130
25	4020	58	627	23600	368	23400	7200	96	1870
26	2920	36	281	18800	147	7440	6640	54	967
27	2370	35	224	12100	153	5010	6280	23	385
28	2000	28	152	14900	162	6530	5980	18	283
29	1720	20	95	13400	113	4090	5310	17	240
30	1550	14	59	9720	95	2480	4500	16	194
31	1450	15	58	---	---	---	4110	9	99
TOTAL	64121	---	22824	220790	---	135079	234210	---	54122

07019000 MERAMEC RIVER NEAR EUREKA, MO--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DAY	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		JANUARY			FEBRUARY			MARCH	
1	3920	6	66	2010	12	64	3220	106	924
2	3770	6	64	1950	16	85	3620	117	1140
3	3740	9	91	1920	14	73	4530	671	8210
4	3650	11	107	1890	13	67	11000	1360	45700
5	3240	15	127	1860	10	50	22000	1980	118000
6	3330	19	172	1800	8	38	26100	479	33800
7	3460	26	240	1720	6	26	26800	391	28300
8	3700	45	451	1650	10	45	21900	251	14900
9	4430	92	1110	1630	12	54	8640	115	2680
10	4290	149	1720	2100	45	256	6530	28	492
11	4580	120	1490	2680	69	502	5530	15	231
12	4910	93	1230	3200	149	1280	4720	16	206
13	3400	77	708	4680	129	1630	4320	20	234
14	2710	54	395	9270	502	9820	4070	27	299
15	2420	31	206	7410	266	5330	5100	33	448
16	2190	22	131	5220	124	1750	6560	51	909
17	1960	19	162	4260	69	798	9000	149	3610
18	1840	17	82	3690	47	467	12200	209	6880
19	1510	17	63	3380	29	268	18200	428	27600
20	1560	16	67	3090	35	288	25200	344	23400
21	2810	74	558	3010	45	367	26000	255	17900
22	3980	27	290	2800	42	321	22700	148	9050
23	3300	10	90	2550	38	259	10500	92	2600
24	2430	24	160	2370	34	217	8480	113	2580
25	2030	27	146	2210	42	250	15300	97	4000
26	2040	20	108	2190	41	245	17500	206	9720
27	2210	16	93	2890	150	1170	17100	162	7470
28	2190	18	105	3070	151	1260	13600	122	4490
29	2160	20	117	3100	112	935	18400	130	6480
30	2160	22	129	---	---	---	19500	119	6240
31	2080	20	113	---	---	---	15800	82	3480
TOTAL	92020	---	10536	89600	---	27915	414120	---	392013
		APRIL			MAY			JUNE	
1	9580	68	1750	4150	16	182	2590	66	465
2	7090	72	1380	3980	21	224	2310	77	483
3	7280	114	2240	3720	16	163	2090	66	372
4	12200	138	4560	3420	11	101	1940	60	316
5	16100	90	3900	3260	12	102	1790	76	368
6	13800	63	2360	3350	8	74	1690	48	219
7	9530	61	1560	4550	14	171	1620	37	160
8	7660	63	1290	4960	19	251	1550	35	146
9	8750	55	1290	5160	15	206	1500	31	124
10	12000	87	2820	5080	12	168	1450	26	102
11	10900	68	2000	4240	11	123	1390	25	92
12	7880	55	1170	3640	9	91	1360	38	140
13	6650	37	667	3290	7	63	1360	46	168
14	6180	16	267	3120	4	33	1380	49	183
15	5670	16	240	2930	2	18	1800	50	245
16	5030	20	274	2760	4	29	1810	49	241
17	4640	19	237	2580	8	55	2260	50	307
18	4450	13	150	2440	57	377	2070	54	304
19	4150	15	163	2320	100	624	2150	58	335
20	3790	19	196	2250	110	669	1740	69	326
21	5860	82	3910	2190	109	642	1500	61	248
22	19100	287	35900	2250	110	671	1400	26	99
23	27600	309	23000	2280	106	655	1570	16	69
24	27800	175	13100	3310	79	707	1710	58	267
25	18400	83	4140	2720	80	589	1500	42	170
26	9830	38	1010	4960	190	2540	1430	28	109
27	7250	28	546	7440	280	9510	1320	33	117
28	5960	24	390	5940	245	3930	1210	32	104
29	5100	19	268	3970	112	1200	1100	20	58
30	4560	17	209	3380	82	752	1020	33	90
31	---	---	---	2970	72	579	---	---	---
TOTAL	294730	---	110987	112610	---	25499	49610	---	6427

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07019000 MERAMEC RIVER NEAR EUREKA, MO--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		JULY			AUGUST			SEPTEMBER	
1	981	38	102	587	8	13	479	15	19
2	935	48	122	579	15	23	488	27	35
3	898	25	61	572	12	19	574	30	47
4	907	16	38	558	12	18	565	18	28
5	1020	20	55	551	13	19	534	19	28
6	1190	13	40	551	13	19	511	20	28
7	2400	9	61	543	18	26	489	30	40
8	2840	13	99	551	15	23	497	32	43
9	2060	15	85	631	11	18	604	22	36
10	1630	12	54	1050	14	41	689	19	36
11	1390	10	38	953	34	87	4000	145	2220
12	1250	12	39	775	39	82	4350	330	3870
13	1180	12	37	710	58	110	4410	247	2940
14	1100	11	32	670	56	102	3970	180	1930
15	1020	12	32	647	31	54	2650	101	721
16	1120	13	38	586	19	30	1980	73	389
17	1100	15	45	561	18	28	2630	62	439
18	944	15	39	554	20	30	1190	44	141
19	862	16	37	536	24	34	1150	34	105
20	817	21	46	519	29	40	1120	31	94
21	783	23	49	513	21	29	1130	35	106
22	766	23	48	550	16	24	1680	47	213
23	734	33	66	587	17	27	1440	112	436
24	701	19	36	561	20	30	5370	138	1990
25	678	12	22	611	25	42	3860	121	1270
26	670	11	19	594	19	30	3500	97	913
27	638	9	15	578	25	39	2650	88	627
28	670	13	23	554	40	60	2750	71	526
29	670	17	30	535	36	53	2270	37	224
30	631	20	34	515	20	28	2050	39	217
31	609	14	23	493	12	16	---	---	---
TOTAL	33194	---	1465	18775	---	1194	59580	---	19711
YEAR	1683360		807772						

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07019280 MERAMEC RIVER AT PAULINA HILLS, MO.

WATER-QUALITY RECORDS

LOCATION.--Lat 38°27'46", long 90°24'53", Jefferson County, Hydrologic Unit 07140102, at bridge on State Highway 21 at Paulina Hills, 0.3 mi downstream from Saline Creek, and 10 mi upstream from mouth.

DRAINAGE AREA.--3,950 mi², approximately.

PERIOD OF RECORD.--August 1963 to July 1975, October 1981 to current year.

REMARKS.--Records of discharge are given for gaging station near Eureka, Mo.

WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	TIME	AGENCY ANALYZING SAMPLE (CODE NUMBER) (00028)	STREAMFLOW, INSTANTANEOUS (CFS) (00061)	SPECIFIC CONDUCTANCE (UMHOS) (00095)	PH (STANDARD UNITS) (00400)	TEMPERATURE (DEG C) (00010)	OXYGEN, DISSOLVED (MG/L) (00300)	OXYGEN, DISSOLVED (PERCENT SATURATION) (00301)	OXYGEN DEMAND, CHEMICAL (LOW LEVEL) (MG/L) (00335)	OXYGEN DEMAND, CHEMICAL (HIGH LEVEL) (MG/L) (00340)	COLIFORM, FECAL, 0.7 UM-MF (COLS./100 ML) (31625)
OCT 04...	1200	29001	638	418	8.1	21.0	6.8	75	17	--	200
NOV 16...	1430	29001	2050	284	7.8	11.0	10.6	94	6	--	240
DEC 21...	1000	29001	3430	278	7.8	.5	14.0	94	5	--	280
JAN 17...	1500	29001	2190	290	7.9	.5	14.0	94	20	--	270
FEB 22...	1330	29001	3080	320	8.1	10.0	11.8	103	8	--	68
MAR 20...	1400	29001	26000	200	7.8	5.5	11.6	91	20	--	2100
APR 18...	1430	29001	4900	290	7.9	12.0	9.0	82	<5	--	44
MAY 09...	1445	29001	7320	321	7.8	16.0	9.4	92	39	--	150
JUN 19...	1445	29001	2340	360	8.2	30.0	7.6	98	13	--	540
JUL 17...	1545	80020	1010	390	8.0	28.0	5.6	70	--	22	100
AUG 14...	1430	80020	737	430	8.1	27.0	7.2	88	--	47	K72
SEP 19...	0950	80020	1010	300	7.7	18.5	6.1	63	--	30	520

DATE	HARDNESS (MG/L AS CACO3) (00900)	HARDNESS, NONCARBONATE (MG/L CACO3) (00902)	CALCIUM DISSOLVED (MG/L AS CA) (00915)	MAGNESIUM, DISSOLVED (MG/L AS MG) (00925)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	POTASSIUM, DISSOLVED (MG/L AS K) (00935)	ALKALINITY FIELD (MG/L AS CACO3) (00410)	CARBON DIOXIDE DISSOLVED (MG/L AS CO2) (00405)	SULFATE DISSOLVED (MG/L AS SO4) (00945)	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)
OCT 04...	210	37	41	27	8.4	1.7	177	2.7	25	12
NOV 16...	--	--	--	--	--	--	124	3.8	--	--
DEC 21...	--	--	--	--	--	--	115	3.5	--	--
JAN 17...	--	--	--	15	7.2	1.5	130	3.2	30	10
FEB 22...	--	--	--	--	--	--	123	1.9	--	--
MAR 20...	--	--	--	--	--	--	79	2.4	--	--
APR 18...	130	19	29	15	4.9	1.4	115	2.8	29	6.0
MAY 09...	--	--	--	--	--	--	138	4.2	--	--
JUN 19...	--	--	--	--	--	--	150	1.8	--	--
JUL 17...	180	25	39	21	7.4	1.9	159	3.1	20	9.6
AUG 14...	--	--	--	--	--	--	191	2.9	--	--
SEP 19...	--	--	--	--	--	--	128	4.9	--	--

K--Results based on colony count outside the acceptable range (non-ideal colony count).

07019280 MERAMEC RIVER AT PAULINA HILLS, MO--Continued

DATE	FLUORIDE, DISSOLVED (MG/L AS F) (00950)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L) (70300)	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MG/L) (00530)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITROGEN, AMMONIA TOTAL (MG/L AS N) (00610)	PHOSPHORUS, TOTAL (MG/L AS P) (00665)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD) (01027)	CADMIUM DISSOLVED (UG/L AS CD) (01025)	COPPER, TOTAL RECOVERABLE (UG/L AS CU) (01042)	COPPER, DISSOLVED (UG/L AS CU) (01040)
OCT 04...	.10	220	19	.06	.050	.130	<2	<2	<5	<5
NOV 16...	--	--	17	.57	.070	.060	--	--	--	--
DEC 21...	--	--	14	.70	.100	.080	--	--	--	--
JAN 17...	.10	186	11	.69	.160	.100	<2	<2	<5	<5
FEB 22...	--	--	32	.55	.110	.100	--	--	--	--
MAR 20...	--	--	166	.47	.080	.110	--	--	--	--
APR 18...	.10	211	1	.43	.010	<.050	<2	<2	<5	<5
MAY 09...	--	--	13	.23	.040	.050	--	--	--	--
JUN 19...	--	--	21	.18	.040	.080	--	--	--	--
JUL 17...	.10	216	44	.20	.120	.100	<1	<1	9	3
AUG 14...	--	--	23	.10	.030	.110	--	--	--	--
SEP 19...	--	--	31	.50	.100	.110	--	--	--	--

DATE	IRON, TOTAL RECOVERABLE (UG/L AS FE) (01045)	IRON, DISSOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOVERABLE (UG/L AS PB) (01051)	LEAD, DISSOLVED (UG/L AS PB) (01049)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN) (01055)	MANGANESE, DISSOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOVERABLE (UG/L AS HG) (71900)	MERCURY DISSOLVED (UG/L AS HG) (71890)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN) (01092)	ZINC, DISSOLVED (UG/L AS ZN) (01090)
OCT 04...	1000	<20	13	<5	120	27	<.2	<.2	30	10
NOV 16...	--	--	--	--	--	--	--	--	--	--
DEC 21...	--	--	--	--	--	--	--	--	--	--
JAN 17...	860	60	<5	<5	74	51	<.2	.2	30	13
FEB 22...	--	--	--	--	--	--	--	--	--	--
MAR 20...	--	--	--	--	--	--	--	--	--	--
APR 18...	810	30	8	<5	84	50	<.2	<.2	10	<10
MAY 09...	--	--	--	--	--	--	--	--	--	--
JUN 19...	--	--	--	--	--	--	--	--	--	--
JUL 17...	1500	6	20	<1	350	200	.1	.1	50	13
AUG 14...	--	--	--	--	--	--	--	--	--	--
SEP 19...	--	--	--	--	--	--	--	--	--	--

07020500 MISSISSIPPI RIVER AT CHESTER, IL

LOCATION.--Lat 37°54'10", long 89°51'10", in SW¼ sec.24, T.7 S., R.7 W., third principal meridian, Randolph County, Hydrologic Unit 07140105, on downstream side of left pier of main truss of highway bridge at Chester, 8.1 mi downstream from Kaskaskia River, and at mile 109.9 above Ohio River.

DRAINAGE AREA.--708,600 mi², approximately.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--Discharge: October 1927 to current year in reports of Geological Survey. Monthly discharge only for some periods, published in WSP 1311. Since August 1873, results of discharge measurements in reports of Mississippi River Commission.
Gage heights: July 1942 to current year in reports of Geological Survey. Since May 1891, in reports of Mississippi River Commission and National Weather Service.

REVISED RECORDS.--WRD MO-76-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 341.05 ft National Geodetic Vertical Datum of 1929. Prior to Feb. 1, 1962, nonrecording gage 0.4 mi downstream at present datum.

REMARKS.--Records good. Natural flow of stream affected by many reservoirs and navigation dams in upper Mississippi River basin and by many reservoirs and diversions for irrigation in Missouri River basin.

AVERAGE DISCHARGE.--57 years, 188,500 ft³/s, 136,600,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge determined, 886,030 ft³/s July 3, 1947, Apr. 30, 1973, discharge including unmeasured overflow, was greater May 24, 1943; maximum gage height, 43.32 ft Apr. 30, 1973: minimum daily discharge, 30,000 ft³/s Dec. 12, 1937.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 30, 1844, reached a stage of 39.8 ft and a discharge of 1,350,000 ft³/s computed by Corps of Engineers.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 605,000 ft³/s Apr. 25; maximum gage height, 34.97 ft Apr. 25; minimum, 94,800 ft³/s Sept. 7.

DISCHARGE (CUBIC FEET/SECOND) WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	163000	158000	370000	128000	125000	357000	503000	513000	432000	487000	204000	125000
2	160000	149000	359000	127000	130000	364000	483000	503000	423000	481000	193000	120000
3	150000	151000	345000	127000	148000	367000	466000	498000	412000	473000	183000	117000
4	138000	169000	345000	134000	171000	377000	465000	498000	403000	468000	176000	110000
5	131000	219000	351000	136000	168000	409000	481000	502000	392000	467000	176000	103000
6	127000	259000	356000	140000	159000	440000	497000	509000	377000	467000	178000	101000
7	125000	246000	344000	143000	151000	440000	513000	517000	362000	468000	167000	98200
8	115000	220000	315000	147000	154000	421000	524000	529000	347000	467000	161000	101000
9	116000	199000	282000	152000	155000	400000	527000	525000	329000	464000	158000	109000
10	115000	185000	236000	157000	156000	370000	527000	519000	326000	458000	166000	119000
11	113000	171000	241000	168000	162000	336000	529000	512000	373000	445000	172000	139000
12	114000	166000	265000	167000	167000	299000	531000	503000	421000	429000	167000	157000
13	115000	183000	307000	167000	187000	268000	532000	493000	452000	407000	165000	155000
14	112000	193000	320000	169000	190000	252000	528000	487000	471000	377000	160000	133000
15	117000	165000	309000	163000	231000	230000	524000	482000	485000	354000	165000	125000
16	120000	173000	292000	159000	260000	239000	520000	480000	490000	342000	160000	126000
17	124000	159000	263000	155000	276000	301000	513000	479000	489000	333000	165000	127000
18	132000	159000	239000	149000	297000	363000	503000	474000	486000	329000	159000	135000
19	139000	169000	213000	143000	315000	401000	490000	463000	486000	328000	149000	136000
20	149000	192000	188000	139000	337000	443000	480000	445000	480000	321000	146000	124000
21	174000	196000	170000	137000	354000	491000	484000	428000	475000	311000	145000	116000
22	196000	180000	157000	128000	356000	513000	507000	420000	472000	304000	139000	114000
23	195000	213000	145000	122000	354000	504000	541000	427000	470000	296000	134000	139000
24	201000	263000	134000	120000	348000	484000	577000	438000	473000	288000	136000	145000
25	195000	324000	125000	120000	342000	479000	600000	447000	480000	277000	135000	132000
26	188000	328000	120000	118000	332000	487000	601000	449000	484000	269000	129000	124000
27	185000	315000	117000	121000	336000	499000	592000	450000	489000	260000	123000	118000
28	183000	334000	119000	132000	341000	509000	575000	447000	494000	262000	116000	122000
29	183000	354000	118000	130000	349000	520000	552000	437000	494000	263000	114000	125000
30	177000	370000	118000	129000	---	520000	531000	432000	491000	252000	112000	119000
31	168000	---	124000	125000	---	515000	---	433000	---	230000	121000	---
TOTAL	4620000	6582000	7387000	4352000	7051000	12598000	15696000	14739000	13258000	11377000	4783000	3714200
MEAN	149000	219400	238300	140400	243100	406400	523200	475500	441900	367000	154300	123800
MAX	201000	370000	370000	169000	356000	520000	601000	529000	494000	487000	204000	157000
MIN	112000	149000	117000	118000	125000	230000	465000	420000	326000	230000	112000	98200

CAL YR 1983 TOTAL 102400100 MEAN 280500 MAX 746000 MIN 95800
WTR YR 1984 TOTAL 106157200 MEAN 290000 MAX 601000 MIN 98200

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07020500 MISSISSIPPI RIVER AT CHESTER IL--Continued

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984
INSTANTANEOUS OBSERVATIONS AT 0800

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11.34	11.16	24.01	7.83	7.89	23.30	29.94	31.32	28.32	30.58	15.09	8.02
2	11.13	10.27	23.50	7.69	8.32	23.70	29.19	30.70	27.85	30.33	14.17	7.51
3	10.41	10.08	22.74	7.34	9.58	23.80	28.39	30.51	27.37	30.05	13.58	7.14
4	9.33	11.33	22.61	7.86	11.98	24.10	28.22	30.55	26.82	29.83	12.73	6.46
5	8.72	14.81	22.97	8.04	11.92	25.61	29.03	30.76	26.34	29.89	12.70	5.40
6	8.18	18.42	23.38	8.20	11.12	27.20	29.90	30.97	25.48	29.90	13.03	5.14
7	8.00	17.88	22.87	8.45	10.10	27.46	30.50	31.60	24.68	30.03	12.21	4.95
8	6.90	16.22	21.43	9.02	10.20	26.62	31.13	32.05	23.90	30.13	11.27	5.01
9	6.89	14.54	19.83	9.79	10.32	25.62	31.31	31.94	22.98	30.06	10.96	5.70
10	6.76	13.50	16.89	10.41	10.35	24.34	31.32	31.79	22.29	29.96	11.37	7.36
11	6.65	12.66	16.65	11.67	10.80	22.54	31.45	31.40	24.47	29.49	12.12	8.81
12	6.67	11.81	17.97	11.68	11.03	20.78	31.53	31.06	26.93	28.73	11.74	10.65
13	6.98	13.01	20.48	11.63	12.26	18.82	31.57	30.60	28.32	27.52	11.44	10.98
14	6.26	14.09	21.54	11.89	13.80	17.77	31.49	30.39	29.32	26.20	11.78	8.90
15	7.00	13.53	20.96	11.39	15.35	16.34	31.32	30.21	30.00	24.86	11.69	8.00
16	7.10	12.62	20.30	11.11	17.21	16.00	31.18	30.08	30.22	24.09	11.00	8.10
17	7.45	11.61	18.40	10.73	18.44	19.42	30.97	30.09	30.30	23.54	11.51	8.05
18	7.91	11.20	17.04	10.32	19.50	22.66	30.49	29.90	30.13	23.26	11.14	8.82
19	8.75	12.00	15.34	9.83	20.48	24.56	29.97	29.42	30.00	23.10	10.24	9.20
20	9.19	14.02	13.50	9.33	21.58	26.09	29.52	28.76	29.89	22.77	9.95	7.94
21	11.52	14.14	12.05	9.21	22.58	28.20	29.46	27.89	29.72	22.07	9.96	6.94
22	13.58	14.03	11.00	8.57	22.80	29.19	30.48	27.44	29.47	21.68	9.49	6.64
23	13.54	14.23	10.00	7.76	22.80	29.10	31.93	27.72	29.38	21.21	8.76	9.12
24	14.22	17.65	9.05	7.39	22.70	28.22	33.50	28.34	29.57	20.61	9.07	9.91
25	13.95	21.55	8.17	7.39	22.43	27.94	34.65	28.72	29.76	19.98	8.94	8.87
26	13.21	22.00	7.45	7.33	22.10	28.40	34.85	28.92	29.98	19.27	8.51	8.12
27	13.08	20.97	7.05	7.31	22.32	29.02	34.58	28.99	30.33	18.87	7.90	7.10
28	12.85	22.16	7.19	8.70	22.50	29.40	33.95	28.97	30.54	18.82	6.91	7.44
29	12.87	22.93	7.40	8.34	22.89	30.25	33.00	28.55	30.65	18.99	6.75	8.00
30	12.56	23.99	6.99	8.60	---	30.40	32.13	28.29	30.60	18.43	6.26	7.37
31	11.86	---	7.55	8.04	---	30.28	---	28.27	---	17.08	7.10	---
MEAN	9.83	15.28	16.01	9.12	16.05	25.07	31.23	29.88	28.19	24.88	10.62	7.72
MAX	14.22	23.99	24.01	11.89	22.89	30.40	34.85	32.05	30.65	30.58	15.09	10.98
MIN	6.26	10.08	6.99	7.31	7.89	16.00	28.22	27.44	22.29	17.08	6.26	4.95

CAL YR 1983 MEAN 18.35 MAX 40.81 MIN 4.34
WTR YR 1984 MEAN 18.65 MAX 34.85 MIN 4.95

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07020500 MISSISSIPPI RIVER AT CHESTER, IL--Continued

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--
SUSPENDED-SEDIMENT: August 1980 to current year.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SUSPENDED-SEDIMENT CONCENTRATIONS: Maximum daily mean, 2,510 mg/L May 25, 1981; minimum daily mean, 13 mg/L March 18, 1981.
SUSPENDED-SEDIMENT LOADS: Maximum daily, 3,170,000 tons June 6, 1982; minimum daily, 3,580 tons March 18, 1981.

EXTREMES FOR CURRENT YEAR.--
SUSPENDED-SEDIMENT CONCENTRATIONS: Maximum daily mean, 2,390 mg/L June 13; minimum daily mean, 93 mg/L February 6.
SUSPENDED-SEDIMENT LOADS: Maximum daily 2,915,000 tons June 13; minimum daily, 30,900 tons October 16.

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT

DATE	STREAM-FLOW, INSTAN-TANEOUS (CFS) (00061)	SED. SUSP. FALL DIAM. % FINER THAN .002 MM (70337)	SED. SUSP. FALL DIAM. % FINER THAN .004 MM (70338)	SED. SUSP. FALL DIAM. % FINER THAN .008 MM (70339)	SED. SUSP. FALL DIAM. % FINER THAN .016 MM (70340)	SED. SUSP. FALL DIAM. % FINER THAN .062 MM (70342)	SED. SUSP. FALL DIAM. % FINER THAN .125 MM (70343)	SED. SUSP. FALL DIAM. % FINER THAN .250 MM (70344)	SED. SUSP. FALL DIAM. % FINER THAN .500 MM (70345)	SED. SUSP. FALL DIAM. % FINER THAN 1.00 MM (70346)
FEB , 1984										
22...	346000	37	38	41	48	64	68	92	100	100
MAR										
21...	464000	35	38	40	48	72	75	88	97	99
APR										
20...	488000	34	37	39	44	74	80	94	98	99
JUN										
18...	503000	60	63	--	78	97	--	--	--	--
18...	503000	59	63	--	73	97	100	--	--	--
18...	503000	58	63	--	72	94	96	98	99	100
18...	503000	58	62	--	69	92	96	98	100	--
18...	503000	54	59	--	66	84	89	96	100	--
18...	503000	46	50	--	58	75	82	98	100	--
18...	503000	43	47	--	56	80	87	100	--	--
18...	503000	51	54	--	61	84	89	98	100	100
18...	503000	55	60	--	74	91	96	100	--	--
18...	503000	55	58	--	70	96	--	--	--	--

PARTICLE-SIZE DISTRIBUTION OF SURFACE BED MATERIAL

DATE	BED MAT. SIEVE DIAM. % FINER THAN .062 MM (80164)	BED MAT. SIEVE DIAM. % FINER THAN .125 MM (80165)	BED MAT. SIEVE DIAM. % FINER THAN .250 MM (80166)	BED MAT. SIEVE DIAM. % FINER THAN .500 MM (80167)	BED MAT. SIEVE DIAM. % FINER THAN 1.00 MM (80168)	BED MAT. SIEVE DIAM. % FINER THAN 2.00 MM (80169)	BED MAT. SIEVE DIAM. % FINER THAN 4.00 MM (80170)	BED MAT. SIEVE DIAM. % FINER THAN 8.00 MM (80171)	BED MAT. SIEVE DIAM. % FINER THAN 16.0 MM (80172)
OCT , 1983									
27...	0	0	33	79	93	97	98	99	100
JUL , 1984									
24...	0	1	17	53	79	90	96	99	100
SEP									
27...	0	1	30	61	80	90	97	99	100

07020500 MISSISSIPPI RIVER AT CHESTER, IL--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		OCTOBER			NOVEMBER			DECEMBER	
1	163000	214	94300	158000	121	51800	370000	512	512000
2	160000	204	88300	149000	146	58800	359000	459	445000
3	150000	161	65000	151000	135	55000	345000	534	498000
4	138000	122	45600	169000	144	65600	345000	456	425000
5	131000	108	38100	219000	350	207000	351000	452	428000
6	127000	116	39600	259000	448	313000	356000	401	386000
7	125000	122	41000	246000	447	297000	344000	333	309000
8	115000	169	52400	220000	373	221000	315000	331	282000
9	116000	113	35500	199000	261	140000	282000	330	251000
10	115000	112	34900	185000	223	111000	236000	264	168000
11	113000	126	38500	171000	173	79700	241000	431	280000
12	114000	104	32000	166000	180	80600	265000	609	436000
13	115000	112	34700	183000	197	97200	307000	515	427000
14	112000	169	51100	193000	197	103000	320000	---	---
15	117000	137	43300	185000	191	95500	309000	---	---
16	120000	95	30900	173000	200	93300	292000	---	---
17	124000	108	36000	159000	192	82200	263000	---	---
18	132000	130	46400	159000	193	82700	239000	---	---
19	139000	106	39600	169000	227	103000	213000	---	---
20	149000	131	52900	192000	308	160000	188000	---	---
21	174000	218	102000	196000	252	133000	170000	---	---
22	196000	278	147000	180000	219	106000	157000	---	---
23	195000	165	86900	213000	285	164000	145000	---	---
24	201000	176	95300	263000	434	308000	134000	---	---
25	195000	192	101000	324000	387	339000	125000	---	---
26	188000	201	102000	328000	464	411000	120000	---	---
27	185000	191	95200	315000	473	402000	117000	---	---
28	183000	172	84900	334000	491	443000	119000	---	---
29	183000	165	81400	354000	479	458000	118000	---	---
30	177000	142	67700	370000	646	645000	118000	---	---
31	168000	145	65600	---	---	---	124000	---	---
TOTAL	4620000	---	1969100	6582000	---	5906400	7387000	---	4847000
		JANUARY			FEBRUARY			MARCH	
1	128000	---	---	125000	207	69900	357000	394	380000
2	127000	---	---	130000	247	86700	364000	380	373000
3	127000	170	58500	148000	392	157000	367000	813	806000
4	134000	235	85000	171000	211	97400	377000	521	530000
5	136000	195	71500	168000	104	47000	409000	479	528000
6	140000	159	60000	159000	93	39700	440000	628	746000
7	143000	180	69700	151000	98	39800	440000	595	707000
8	147000	157	62400	154000	106	44100	421000	412	469000
9	152000	181	74400	155000	123	51300	400000	378	409000
10	157000	---	---	156000	139	58600	370000	485	485000
11	168000	---	---	162000	564	247000	336000	372	337000
12	167000	---	---	167000	668	301000	299000	311	251000
13	167000	---	---	187000	412	208000	268000	294	213000
14	169000	---	---	190000	363	186000	252000	268	182000
15	163000	---	---	231000	357	223000	230000	246	153000
16	159000	---	---	260000	409	287000	239000	301	194000
17	155000	---	---	276000	524	390000	301000	738	600000
18	149000	---	---	297000	580	465000	363000	767	752000
19	143000	---	---	315000	419	356000	401000	905	980000
20	139000	---	---	337000	575	524000	443000	1240	1490000
21	137000	---	---	354000	740	707000	491000	1580	2100000
22	128000	---	---	356000	630	606000	513000	1450	2020000
23	122000	---	---	354000	600	573000	504000	1130	1530000
24	120000	174	56500	348000	569	534000	484000	1190	1550000
25	120000	190	61400	342000	634	585000	479000	771	997000
26	118000	224	71400	332000	513	460000	487000	644	846000
27	121000	278	90800	336000	426	387000	499000	779	1050000
28	132000	277	98700	341000	410	378000	509000	869	1190000
29	130000	207	72800	349000	403	380000	520000	873	1230000
30	129000	120	41700	---	---	---	520000	886	1240000
31	125000	139	46800	---	---	---	515000	876	1220000
TOTAL	4352000	---	1021600	7051000	---	8488500	12598000	---	25558000

07020500 MISSISSIPPI RIVER AT CHESTER, IL--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DAY	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		APRIL			MAY			JUNE	
1	503000	821	1120000	513000	489	677000	432000	1080	1260000
2	483000	749	976000	503000	508	689000	423000	920	1050000
3	466000	667	839000	498000	599	805000	412000	712	792000
4	465000	721	905000	498000	1090	1470000	403000	523	569000
5	481000	711	923000	502000	1230	1670000	392000	476	504000
6	497000	639	857000	509000	1040	1430000	377000	401	408000
7	513000	764	1060000	517000	867	1210000	362000	392	383000
8	524000	898	1270000	529000	695	993000	347000	402	376000
9	527000	897	1280000	525000	595	844000	329000	383	340000
10	527000	816	1160000	519000	523	733000	326000	422	371000
11	529000	780	1110000	512000	468	648000	373000	740	745000
12	531000	663	950000	503000	442	600000	421000	1760	2000000
13	532000	725	1040000	493000	438	582000	452000	2390	2920000
14	528000	1220	1730000	487000	461	607000	471000	1560	1990000
15	524000	737	1040000	482000	508	661000	485000	1330	1750000
16	520000	598	840000	480000	518	672000	490000	1110	1470000
17	513000	696	964000	479000	---	---	489000	901	1190000
18	503000	633	859000	474000	---	---	486000	863	1130000
19	490000	606	801000	463000	---	---	486000	949	1250000
20	480000	596	773000	445000	---	---	480000	997	1290000
21	484000	628	821000	428000	---	---	475000	937	1200000
22	507000	687	941000	420000	---	---	472000	811	1030000
23	541000	742	1030000	427000	---	---	470000	713	905000
24	577000	797	1240000	438000	---	---	473000	674	861000
25	600000	744	1210000	447000	---	---	480000	663	860000
26	601000	727	1180000	449000	---	---	484000	653	853000
27	592000	576	920000	450000	---	---	489000	671	886000
28	575000	703	1090000	447000	---	---	494000	575	766000
29	552000	519	773000	437000	---	---	494000	512	683000
30	531000	470	674000	432000	---	---	491000	521	690000
31	---	---	---	433000	738	862000	---	---	---
TOTAL	15696000	---	30426000	14739000	---	15153000	13258000	---	30522000
		JULY			AUGUST			SEPTEMBER	
1	487000	467	615000	204000	339	187000	125000	146	49100
2	481000	495	643000	193000	261	136000	120000	145	46900
3	473000	500	638000	183000	228	113000	117000	138	43600
4	468000	451	570000	176000	219	104000	110000	169	50200
5	467000	513	646000	176000	200	95200	103000	201	55800
6	467000	493	621000	178000	164	78700	101000	192	52400
7	468000	488	616000	167000	159	71700	98200	183	48600
8	467000	496	626000	161000	181	78900	101000	175	47600
9	464000	538	674000	158000	199	85000	109000	186	54600
10	458000	613	758000	166000	204	91200	119000	292	93800
11	445000	631	758000	172000	226	105000	139000	878	329000
12	429000	602	697000	167000	217	97600	157000	636	269000
13	407000	611	671000	165000	140	62200	155000	470	197000
14	377000	596	606000	169000	148	67700	133000	360	129000
15	354000	525	501000	165000	157	70100	125000	271	91400
16	342000	515	475000	160000	144	62000	126000	235	79800
17	333000	528	475000	165000	134	59900	127000	247	84800
18	329000	485	431000	159000	112	48000	135000	233	84800
19	328000	531	470000	149000	130	52100	136000	212	77800
20	321000	558	484000	146000	147	53000	124000	213	71500
21	311000	558	468000	145000	178	69800	116000	192	60300
22	304000	487	400000	139000	178	66800	114000	205	63100
23	296000	371	296000	134000	157	56900	139000	769	289000
24	288000	352	274000	136000	159	58200	145000	393	154000
25	277000	370	277000	135000	180	65600	132000	279	99600
26	269000	277	201000	129000	157	54600	124000	264	88300
27	260000	277	194000	123000	163	54100	118000	212	67700
28	262000	295	208000	116000	183	57300	122000	201	66100
29	263000	313	222000	114000	180	55300	125000	201	67700
30	252000	413	281000	112000	162	49100	119000	201	64500
31	230000	449	279000	121000	144	47200	---	---	---
TOTAL	11377000	---	15075000	4783000	---	2358200	3714200	---	2977200
YEAR	106157200		144302000						

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07021000 CASTOR RIVER AT ZALMA, MO

LOCATION.--Lat 37°08'48", long 90°04'32", in SE¼ sec.29, T.29 N., R.9 E., Bollinger County, Hydrologic Unit 07140107, on downstream side of left bridge pier on State Highway 51 in Zalma, and 2.5 mi downstream from Perkins Creek.

DRAINAGE AREA.--423 mi^2.

PERIOD OF RECORD.--January 1920 to current year. Prior to October 1921 monthly discharge only published in WSP 1931.

REVISED RECORDS.--WSP 1147: 1922-23(M). WSP 1281: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 350.38 ft National Geodetic Vertical Datum of 1929. Jan. 1920 to Oct. 1, 1925, at site 500 ft upstream at datum 49.82 ft lower, Oct. 1, 1925, to Nov. 12, 1930, at site 500 ft upstream at datum 0.18 ft higher. Nov. 13, 1930, to June 8, 1953, nonrecording gage at present site and datum. Since Dec. 16, 1949, auxiliary nonrecording gage, 6.0 mi downstream.

REMARKS.--Records good. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--64 years, 512 ft^3/s, 16.44 in/yr, 370,900 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 97,100 ft^3/s Dec. 4, 1982, gage height, 29.92; minimum, 16 ft^3/s, Aug. 31, 1936.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of 1915 reached a stage of 28.0 ft, present datum, from floodmarks by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 6,000 ft^3/s Nov. 24, gage height, 20.00 ft, no peak above base of 8,000 ft^3/s; minimum, 42 ft^3/s Oct. 3, 4.

DISCHARGE (CUBIC FEET/SECOND) WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	46	100	819	190	248	295	1270	1890	173	76	66	65
2	45	103	735	190	249	294	1040	1230	164	75	65	64
3	44	116	1070	190	262	300	1390	967	156	74	66	65
4	60	171	2720	185	264	383	1890	851	149	88	72	66
5	99	228	2510	185	260	777	1680	742	141	163	95	67
6	90	249	1790	200	249	1170	1290	1110	136	250	104	66
7	84	218	1370	194	237	913	1040	4110	130	190	93	65
8	79	191	994	186	230	754	943	5490	125	152	86	64
9	71	174	782	182	224	640	1090	3340	121	131	90	74
10	65	172	665	186	224	569	1220	1650	116	117	109	82
11	64	165	1890	183	228	518	1080	1430	112	109	102	137
12	70	155	3740	177	619	480	990	1090	108	102	101	172
13	73	147	2240	173	3100	468	950	822	104	96	95	191
14	76	141	1510	169	2860	455	860	688	100	93	89	155
15	76	139	1160	164	1740	435	792	586	97	91	83	129
16	74	131	896	163	1250	452	732	505	95	87	79	114
17	85	126	735	157	935	993	678	438	94	85	76	105
18	93	121	631	150	771	2320	623	382	99	85	75	100
19	85	134	550	140	695	4370	570	337	95	77	74	96
20	81	850	500	135	601	4410	523	304	92	75	73	93
21	92	1700	450	135	527	2840	541	281	101	73	72	89
22	149	1020	375	130	471	1800	1290	260	102	70	75	92
23	173	3180	325	150	423	1350	1540	243	103	69	78	393
24	167	5690	300	171	382	1090	1120	231	104	67	77	1010
25	151	3440	275	229	348	1080	915	241	98	65	75	537
26	136	1530	250	261	320	934	791	221	93	70	73	425
27	124	1460	240	266	331	838	713	213	90	68	71	418
28	117	2490	230	256	329	2310	776	224	86	73	71	318
29	111	1870	220	257	305	3790	863	212	83	71	69	266
30	107	1180	210	258	---	2390	1420	193	79	68	68	235
31	103	---	200	251	---	1590	---	183	---	66	66	---
TOTAL	2890	27391	30382	5863	18682	41028	30620	30464	3346	2976	2488	5753
MEAN	93.2	913	980	189	644	1323	1021	983	112	96.0	80.3	192
MAX	173	5690	3740	266	3100	4410	1890	5490	173	250	109	1010
MIN	44	100	200	130	224	294	523	183	79	65	65	64

CAL YR 1983	TOTAL	236887	MEAN	649	MAX	30700	MIN	43
WTR YR 1984	TOTAL	201883	MEAN	552	MAX	5690	MIN	44

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07022000 MISSISSIPPI RIVER AT THEBES, IL

LOCATION.--Lat 37°13'00", long 89°27'50", in NW¼ sec.17, T.15 S., R.3 W., Alexander County, Hydrologic Unit 07140105, near center span on downstream side of railroad bridge at Thebes, 5.0 mi downstream from Headwater Diversion Channel, and at mile 43.7 above Ohio River.

DRAINAGE AREA.--713,200 mi², approximately.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--Discharge: October 1932 to current year. Monthly discharge only for some periods, published in WSP 1311. Prior to April 1941, published as "at Cape Girardeau, Mo.".

Gage heights: March 1933 to February 1938 and October 1939 to current year in reports of Geological Survey (prior to April 1941, published as "at Cape Girardeau, Mo."). Since November 1878, under name of "at Grays Point" in files of St. Louis District office of Corps of Engineers. January 1879 to May of 1896, published as "at Grays Point" and since May 1896, published as "at Cape Girardeau" in reports of Mississippi River Commission. February 1891 to February 1894 and since 1904, published as "at Cape Girardeau" in reports of National Weather Service.

REVISED RECORDS.--WSP 1341: 1844(M). WRD MO-76-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 300 ft National Geodetic Vertical Datum of 1929. Mar. 17, 1933, to Dec. 21 1934, nonrecording gage and Dec. 22, 1934, to Apr. 4, 1941, water-stage recorder, at site 8.2 mi upstream at datum 4.65 ft higher. Apr. 5, 1941, to Sept. 30, 1941, nonrecording gage at present site and datum and Oct. 1, 1941, to Oct. 11, 1943, at datum 0.07 ft higher. Prior to Apr. 5, 1941, various auxiliary gages used. Since Oct. 1, 1943, former gage at Cape Girardeau used as auxiliary gage.

REMARKS.--Water discharge records good. Natural flow of stream affected by many reservoirs and navigation dams in upper Mississippi River basin and by many reservoirs and diversions for irrigation in Missouri River basin.

AVERAGE DISCHARGE.--52 years, 194,550 ft³/s, 141,000,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 893,000 ft³/s May 27, 1943, elevation, 340.33 ft, present datum; maximum elevation, 343.43 ft Apr. 30, 1973; minimum discharge, 23,400 ft³/s Dec. 13, 1937, at site then in use.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of July 4, 1844, reached an elevation of 345.14 ft, present datum, at Grays Point, from floodmarks, discharge, 1,375,000 ft³/s, computed by Corps of Engineers.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 632,000 ft³/s Apr. 27, gage height, 38.58 ft; minimum daily, 101,000 ft³/s Sept. 8.

DISCHARGE (CUBIC FEET/SECOND) WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	162000	165000	385000	134000	141000	360000	531000	534000	445000	496000	229000	124000
2	161000	156000	386000	136000	141000	365000	515000	511000	441000	493000	208000	127000
3	158000	151000	378000	135000	148000	371000	499000	493000	432000	487000	198000	122000
4	150000	154000	380000	136000	167000	381000	494000	490000	423000	476000	187000	118000
5	143000	179000	387000	139000	179000	408000	487000	489000	415000	479000	184000	111000
6	133000	235000	399000	139000	174000	440000	498000	493000	402000	477000	185000	106000
7	129000	255000	399000	140000	164000	473000	513000	511000	395000	476000	182000	104000
8	125000	236000	379000	144000	158000	460000	529000	522000	368000	476000	174000	101000
9	117000	212000	348000	151000	158000	441000	539000	526000	354000	476000	166000	106000
10	117000	196000	306000	158000	159000	415000	539000	525000	339000	473000	164000	114000
11	117000	184000	283000	167000	161000	381000	541000	522000	352000	465000	172000	126000
12	117000	173000	300000	178000	167000	347000	544000	517000	394000	449000	173000	152000
13	118000	174000	324000	175000	184000	312000	549000	509000	429000	431000	170000	162000
14	116000	189000	353000	176000	201000	283000	548000	500000	456000	408000	169000	154000
15	118000	193000	355000	175000	221000	261000	544000	493000	472000	383000	171000	135000
16	120000	185000	343000	169000	251000	246000	537000	493000	484000	370000	167000	129000
17	123000	175000	318000	166000	280000	276000	534000	493000	487000	359000	166000	129000
18	128000	165000	289000	162000	300000	335000	524000	496000	484000	350000	168000	131000
19	129000	169000	263000	157000	323000	387000	508000	494000	480000	344000	162000	139000
20	132000	188000	231000	152000	340000	422000	489000	485000	477000	339000	154000	136000
21	149000	203000	198000	149000	360000	461000	477000	470000	472000	330000	151000	124000
22	181000	205000	163000	145000	371000	497000	485000	456000	470000	321000	149000	118000
23	194000	221000	171000	136000	373000	513000	510000	450000	469000	313000	142000	126000
24	197000	259000	157000	132000	372000	503000	549000	453000	472000	304000	139000	149000
25	200000	305000	147000	131000	366000	490000	591000	457000	474000	293000	140000	149000
26	195000	336000	140000	133000	357000	490000	618000	461000	479000	281000	138000	142000
27	190000	332000	135000	131000	352000	499000	627000	460000	484000	274000	131000	129000
28	185000	340000	132000	138000	352000	517000	611000	457000	491000	271000	124000	124000
29	183000	350000	133000	148000	353000	541000	586000	452000	496000	272000	118000	127000
30	181000	371000	130000	149000	---	543000	558000	446000	498000	268000	115000	128000
31	174000	---	129000	145000	---	539000	---	445000	---	254000	116000	---
TOTAL	4642000	6656000	8461000	4626000	7273000	12957000	16074000	15103000	13334000	11888000	5012000	3842000
MEAN	149700	221900	272900	149200	250800	418000	535800	487200	444500	383500	161700	128100
MAX	200000	371000	399000	178000	373000	543000	627000	534000	498000	496000	229000	162000
MIN	116000	151000	129000	131000	141000	246000	477000	445000	339000	254000	115000	101000

CAL YR 1983 TOTAL 108244000 MEAN 296600 MAX 797000 MIN 100000

WTR YR 1984 TOTAL 109868000 MEAN 300200 MAX 627000 MIN 101000

07022000 MISSISSIPPI RIVER AT THEBES, IL--Continued

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984
INSTANTANEOUS OBSERVATIONS AT 0800

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15.68	16.01	28.90	13.33	13.50	27.67	35.82	36.86	32.44	33.40	20.66	12.31
2	15.63	15.29	28.98	13.53	13.43	27.77	35.65	36.28	32.17	33.32	19.25	12.78
3	15.42	14.75	28.58	13.32	13.69	28.12	35.09	35.87	31.71	33.22	18.48	12.33
4	14.69	14.86	28.64	13.30	15.41	28.53	35.07	35.82	31.23	32.93	17.87	11.96
5	14.00	16.42	28.91	13.64	16.81	29.68	35.06	35.75	30.83	33.05	17.43	11.27
6	13.28	20.24	29.49	13.64	16.47	31.09	35.22	35.97	30.22	33.10	17.47	10.52
7	12.73	22.10	29.63	13.61	15.82	32.20	35.74	36.61	29.25	33.02	17.45	10.26
8	12.47	21.12	28.85	13.80	15.17	32.22	36.15	37.18	28.45	33.06	16.64	9.94
9	11.53	19.55	27.27	14.34	15.19	31.53	36.52	37.31	27.59	33.23	16.05	10.40
10	11.49	18.57	25.34	14.95	15.37	30.39	36.63	37.38	26.60	33.16	15.83	11.28
11	11.38	17.64	23.42	15.53	15.47	28.99	36.47	37.30	26.76	32.96	16.39	12.30
12	11.39	16.67	24.32	16.42	15.83	27.37	36.23	37.23	28.75	32.53	16.62	14.61
13	11.39	16.45	25.42	16.41	17.28	25.44	36.57	36.98	30.30	31.56	16.27	15.60
14	11.30	17.78	27.22	16.45	18.50	23.81	36.40	36.71	31.28	30.55	16.24	15.32
15	11.17	18.33	27.51	16.44	19.70	22.52	36.40	36.52	32.09	29.33	16.45	13.56
16	11.60	17.76	26.97	15.99	21.33	21.30	36.19	36.38	32.60	28.29	16.14	12.92
17	11.69	16.90	25.71	15.64	23.27	22.53	35.97	36.22	32.86	27.79	16.00	12.88
18	12.07	15.88	24.17	15.29	24.23	25.97	35.53	36.20	32.77	27.20	16.18	12.95
19	12.70	16.09	22.71	14.94	25.57	28.57	34.97	35.99	32.61	26.92	15.84	13.71
20	13.22	17.41	21.02	14.45	26.38	30.57	34.17	35.64	32.63	26.66	15.05	13.69
21	14.30	18.81	18.65	14.12	27.58	31.97	33.60	34.96	32.35	26.25	14.81	12.60
22	16.56	18.93	17.58	13.89	28.18	33.53	33.80	34.25	32.47	25.64	14.65	11.88
23	18.04	19.54	16.60	13.14	28.26	34.43	34.70	33.82	32.26	25.31	14.15	12.06
24	18.20	21.86	15.47	12.69	28.31	34.12	35.96	33.80	32.58	24.78	13.70	14.56
25	18.66	24.27	14.03	12.52	28.09	33.86	37.36	33.78	32.64	24.30	13.81	14.73
26	18.32	26.42	13.86	12.75	27.64	33.90	38.33	33.86	32.74	23.59	13.68	14.15
27	17.94	26.20	13.52	12.45	27.28	34.35	38.45	33.72	32.92	23.11	13.16	13.08
28	17.59	26.64	13.15	12.87	27.24	34.99	38.33	33.49	33.25	22.74	12.59	12.38
29	17.50	27.18	13.28	13.96	27.12	35.83	37.97	33.13	33.40	22.98	11.89	12.70
30	17.29	28.22	13.08	13.89	---	36.09	37.31	32.76	33.47	22.79	11.65	12.88
31	16.81	---	12.85	13.78	---	36.06	---	32.47	---	22.11	11.44	---
MEAN	14.39	19.60	22.42	14.23	20.97	30.17	36.06	35.49	31.37	28.67	15.61	12.72
MAX	18.66	28.22	29.63	16.45	28.31	36.09	38.45	37.38	33.47	33.40	20.66	15.60
MIN	11.17	14.75	12.85	12.45	13.43	21.30	33.60	32.47	26.60	22.11	11.44	9.94

CAL YR 1983 MEAN 23.16 MAX 44.10 MIN 9.45
WTR YR 1984 MEAN 23.47 MAX 38.45 MIN 9.94

07022000 MISSISSIPPI RIVER AT THEBES, IL--Continued
(National stream-quality accounting network station)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--January 1973 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1974 to September 1981.
WATER TEMPERATURE: October 1974 to September 1981.
SUSPENDED-SEDIMENT: October 1980 to current year.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum daily, 705 micromhos August 5-7, 1980; minimum daily, 272 micromhos April 6, 1979.
WATER TEMPERATURE: Maximum daiy, 31.5°C July 10, 11, 1975, July 17, 1977; minimum daily, 0.0°C on several days during winter periods.
SUSPENDED-SEDIMENT CONCENTRATIONS: Maximum daily mean, 2,210 mg/L May 28, 1982; minimum daily mean, 13 mg/L January 28, 1981.
SUSPENDED-SEDIMENT LOADS: Maximum daily 3,970,000 tons December 6, 1982; minimum daily, 2,530 tons January 28, 1981.

EXTREMES FOR CURRENT YEAR.--
SUSPENDED-SEDIMENT CONCENTRATIONS: Maximum daily mean, 2,030 mg/L June 14; minimum daily mean 89 mg/L October 17.
SUSPENDED-SEDIMENT LOADS: Maximum daily, 2,495,000 tons June 14; minimum daily, 29,600 tons October 14.

WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS) (00061)	SPECIFIC CONDUCTANCE (UMHOS) (00095)	PH (STANDARD UNITS) (00400)	TEMPERATURE (DEG C) (00010)	TURBIDITY (NTU) (00076)	OXYGEN, DISSOLVED (MG/L) (00300)	OXYGEN, DISSOLVED (PERCENT SATURATION) (00301)	COLIFORM, FECAL, 0.7 UM-MF (COLS./100 ML) (31625)	STREPTOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)
OCT										
05...	0930	150000	572	7.8	19.5	23	5.4	59	5000	7000
NOV										
09...	1015	215000	402	7.6	13.0	170	4.8	45	3100	10000
JAN										
04...	1330	136000	532	7.7	.5	21	8.4	60	3100	1600
26...	1045	133000	582	8.0	.5	19	6.0	42	1800	2200
FEB										
16...	1200	250000	515	7.9	5.0	60	10.0	79	820	4300
MAR										
08...	0915	460000	373	7.5	3.5	200	5.4	41	1600	K800
APR										
04...	0950	494000	435	8.0	8.0	300	9.4	78	1800	1800
MAY										
01...	1650	521000	450	7.7	15.0	110	5.0	48	>30000	22000
JUN										
06...	0940	415000	520	7.6	21.0	170	3.0	33	1900	4700
JUL										
17...	1430	358000	505	7.8	27.0	90	6.0	74	2100	850
AUG										
23...	1000	142000	628	8.3	27.0	16	7.2	88	K1000	K500
SEP										
11...	0915	122000	643	7.7	23.5	40	6.0	69	K9000	2000

DATE	HARDNESS (MG/L AS CACO3) (00900)	HARDNESS, NONCARBONATE (MG/L CACO3) (00902)	CALCIUM DISSOLVED (MG/L AS CA) (00915)	MAGNESIUM, DISSOLVED (MG/L AS MG) (00925)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	PERCENT SODIUM (00932)	SODIUM ADSORPTION RATIO (00931)	POTASSIUM, DISSOLVED (MG/L AS K) (00935)	ALKALINITY FIELD (MG/L AS CACO3) (00410)	SULFATE DISSOLVED (MG/L AS SO4) (00945)
OCT										
05...	210	19	49	21	33	25	1	4.1	190	98
NOV										
09...	160	37	41	15	19	20	.7	4.0	128	56
JAN										
04...	240	49	58	22	21	16	.6	3.3	187	64
26...	230	39	58	21	29	21	.9	3.8	193	78
FEB										
16...	210	45	53	19	25	20	.8	4.2	166	77
MAR										
08...	160	46	41	14	13	15	.5	3.7	114	43
APR										
04...	180	46	47	16	16	16	.5	3.4	137	57
MAY										
01...	200	54	50	17	14	13	.5	3.7	141	64
JUN										
06...	200	43	50	18	15	14	.5	4.0	156	55
JUL										
17...	220	62	56	20	10	9	.3	4.5	161	61
AUG										
23...	240	72	60	23	37	24	1	4.4	173	120
SEP										
11...	220	55	52	21	44	30	1	4.8	162	140

K--Results based on colony count outside the acceptable rage (non-ideal colony count).

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07022000 MISSISSIPPI RIVER AT THEBES, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)	FLUORIDE, DISSOLVED (MG/L AS F) (00950)	SILICA, DISSOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L) (70301)	SOLIDS, DISSOLVED (TONS PER AC-FT) (70303)	SOLIDS, DISSOLVED (TONS PER DAY) (70302)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N) (00631)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N) (00608)
OCT									
05...	20	.30	9.0	339	350	.48	137000	1.4	.110
NOV									
09...	15	.20	8.9	244	240	.33	142000	1.4	.120
JAN									
04...	24	.30	11	--	320	.43	116000	3.3	.280
26...	29	.30	11	355	350	.48	127000	2.5	.430
FEB									
16...	23	.30	12	310	310	.42	209000	2.3	.600
MAR									
08...	15	.20	9.5	232	210	.32	288000	2.6	.170
APR									
04...	17	.20	9.8	255	250	.35	340000	3.5	.140
MAY									
01...	15	.30	9.3	293	260	.40	412000	3.7	.060
JUN									
06...	18	.30	7.3	305	260	.41	342000	4.0	.050
JUL									
17...	13	.30	20	318	280	.43	307000	2.8	.020
AUG									
23...	21	.40	4.0	382	370	.52	146000	1.2	<.010
SEP									
11...	21	.40	4.8	421	390	.57	139000	.81	.200

DATE	NITROGEN, AMMONIA DISSOLVED (MG/L AS NH4) (71846)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N) (00625)	PHOSPHORUS, TOTAL (MG/L AS P) (00665)	PHOSPHORUS TOTAL (MG/L AS PO4) (71886)	PHOSPHORUS, DISSOLVED (MG/L AS P) (00666)	PHOSPHORUS, ORTHO, DISSOLVED (MG/L AS P) (00671)	SEDIMENT, SUSPENDED (MG/L) (80154)	SEDIMENT, DISCHARGE, SUSPENDED (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. %FINER THAN .062 MM (70331)
OCT									
05...	.14	1.6	.180	.55	.090	.110	186	75300	86
NOV									
09...	.15	3.5	.350	1.1	.100	.070	261	152000	98
JAN									
04...	.36	1.5	.210	.64	.090	.070	105	38600	77
26...	.55	1.0	.160	.49	.080	.090	90	32300	77
FEB									
16...	.77	1.2	.260	.80	.110	.100	405	273000	58
MAR									
08...	.22	1.1	.320	.98	.110	.100	261	324000	96
APR									
04...	.18	2.0	.400	1.2	.080	.050	596	795000	77
MAY									
01...	.08	5.0	.320	.98	.080	.050	344	484000	95
JUN									
06...	.06	1.5	.800	--	.100	.080	--	--	--
JUL									
17...	.03	3.0	.200	--	.110	.100	266	257000	95
AUG									
23...	--	1.5	.190	--	.080	.090	92	35300	78
SEP									
11...	.26	1.5	.260	--	.080	.080	188	61900	92

DATE	ALUMINUM, DISSOLVED (UG/L AS AL) (01106)	ARSENIC DISSOLVED (UG/L AS AS) (01000)	BARIUM, DISSOLVED (UG/L AS BA) (01005)	BERYLLIUM, DISSOLVED (UG/L AS BE) (01010)	CADMIUM DISSOLVED (UG/L AS CD) (01025)	CHROMIUM, DISSOLVED (UG/L AS CR) (01030)	COBALT, DISSOLVED (UG/L AS CO) (01035)	COPPER, DISSOLVED (UG/L AS CU) (01040)	IRON, DISSOLVED (UG/L AS FE) (01046)	LEAD, DISSOLVED (UG/L AS PB) (01049)
NOV										
09...	140	1	67	<.5	1	<1	<3	6	59	2
JAN										
26...	20	1	83	<.5	<1	<1	<3	2	38	<1
MAY										
01...	60	1	86	.6	2	<1	<3	8	49	2
JUL										
17...	30	1	53	1.0	<1	<1	<3	6	54	<1

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07022000 MISSISSIPPI RIVER AT THEBES, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	LITHIUM DIS-SOLVED (UG/L AS LI) (01130)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	MERCURY DIS-SOLVED (UG/L AS HG) (71890)	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO) (01060)	NICKEL, DIS-SOLVED (UG/L AS NI) (01065)	SELE-NIUM, DIS-SOLVED (UG/L AS SE) (01145)	SILVER, DIS-SOLVED (UG/L AS AG) (01075)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)	VANA-DIUM, DIS-SOLVED (UG/L AS V) (01085)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)
NOV										
09...	<4	4	<.1	<10	5	1	<1	190	<6	39
JAN										
26...	21	71	<.1	<10	5	<1	<1	230	<6	25
MAY										
01...	11	5	<.1	<10	2	3	<1	180	<6	21
JUL										
17...	9	23	<.1	<10	5	<1	<1	320	<6	4

DATE	GROSS ALPHA, DIS-SOLVED (UG/L AS U-NAT) (80030)	GROSS ALPHA, SUSP. TOTAL (UG/L AS U-NAT) (80040)	GROSS BETA, DIS-SOLVED (PCI/L AS CS-137) (03515)	GROSS BETA, SUSP. TOTAL (PCI/L AS CS-137) (03516)	GROSS BETA, DIS-SOLVED (PCI/L AS SR/YT-90) (80050)	GROSS BETA, SUSP. TOTAL (PCI/L AS SR/YT-90) (80060)	RADIUM 226, DIS-SOLVED, RADON METHOD (PCI/L) (09511)	URANIUM NATURAL DIS-SOLVED (UG/L AS U) (22703)	GROSS ALPHA, SUSP. TOTAL (PCI/L AS U-NAT) (01516)
MAR									
08...	<4.8	14	4.8	13	4.1	11	.12	1.7	9.5
AUG									
23...	<8.9	3.8	<5.5	3.3	<4.7	2.8	.10	4.2	--

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT

DATE	STREAM-FLOW, INSTAN-TANEOUS (CFS) (00061)	SED. SUSP. FALL DIAM. % FINER THAN .002 MM (70337)	SED. SUSP. FALL DIAM. % FINER THAN .004 MM (70338)	SED. SUSP. FALL DIAM. % FINER THAN .008 MM (70339)	SED. SUSP. FALL DIAM. % FINER THAN .016 MM (70340)	SED. SUSP. FALL DIAM. % FINER THAN .062 MM (70342)	SED. SUSP. FALL DIAM. % FINER THAN .125 MM (70343)	SED. SUSP. FALL DIAM. % FINER THAN .250 MM (70344)	SED. SUSP. FALL DIAM. % FINER THAN .500 MM (70345)	SED. SUSP. FALL DIAM. % FINER THAN 1.00 MM (70346)
NOV , 1983										
09...	212000	48	53	58	66	81	84	98	100	--
FEB , 1984										
16...	251000	21	24	25	32	48	52	93	100	--
MAR										
08...	460000	17	18	20	25	45	55	93	100	--
APR										
04...	494000	34	39	44	51	74	78	89	95	98
MAY										
01...	521000	30	32	35	41	69	73	90	100	--
JUN										
19...	476000	59	63	--	76	94	--	--	--	--
19...	476000	53	61	--	72	96	--	--	--	--
19...	476000	47	52	--	61	83	93	98	100	--
19...	476000	47	52	--	63	85	88	92	98	100
19...	476000	48	55	--	67	88	92	96	99	100
19...	476000	49	51	--	57	76	79	87	100	--
19...	476000	40	42	--	51	67	71	83	100	--
19...	476000	44	46	--	56	74	79	93	100	--
19...	476000	47	51	--	60	78	83	99	100	--
19...	476000	55	58	--	69	95	--	--	--	--

PARTICLE-SIZE DISTRIBUTION OF SURFACE BED MATERIAL

DATE	BED MAT. SIEVE DIAM. % FINER THAN .062 MM (80164)	BED MAT. SIEVE DIAM. % FINER THAN .125 MM (80165)	BED MAT. SIEVE DIAM. % FINER THAN .250 MM (80166)	BED MAT. SIEVE DIAM. % FINER THAN .500 MM (80167)	BED MAT. SIEVE DIAM. % FINER THAN 1.00 MM (80168)	BED MAT. SIEVE DIAM. % FINER THAN 2.00 MM (80169)	BED MAT. SIEVE DIAM. % FINER THAN 4.00 MM (80170)	BED MAT. SIEVE DIAM. % FINER THAN 8.00 MM (80171)	BED MAT. SIEVE DIAM. % FINER THAN 16.0 MM (80172)	BED MAT. SIEVE DIAM. % FINER THAN 32.0 MM (80173)
FEB , 1984										
16...	0	0	10	49	65	79	90	95	98	100

07022000 MISSISSIPPI RIVER AT THEBES, IL--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		OCTOBER			NOVEMBER			DECEMBER	
1	162000	119	51900	165000	163	72700	385000	854	888000
2	161000	139	60200	156000	139	58600	386000	813	847000
3	158000	132	56500	151000	136	55500	378000	852	870000
4	150000	125	50500	154000	157	65300	380000	794	814000
5	143000	143	55300	179000	218	105000	387000	695	727000
6	133000	140	50400	235000	389	247000	399000	702	757000
7	129000	118	41200	255000	592	408000	399000	734	791000
8	125000	123	41400	236000	576	367000	379000	737	754000
9	117000	114	36100	212000	468	268000	348000	673	632000
10	117000	105	33200	196000	403	213000	306000	622	514000
11	117000	98	31000	184000	318	158000	283000	574	438000
12	117000	100	31600	173000	266	124000	300000	607	492000
13	118000	93	29800	174000	211	98900	324000	809	708000
14	116000	94	29600	189000	183	93400	353000	587	560000
15	118000	111	35300	193000	220	115000	355000	558	535000
16	120000	110	35700	185000	211	105000	343000	526	487000
17	123000	89	29700	175000	251	119000	318000	---	---
18	128000	100	34600	165000	223	99400	289000	---	---
19	129000	120	41700	169000	243	111000	263000	---	---
20	132000	108	38600	188000	290	147000	231000	---	---
21	149000	146	58700	203000	370	203000	198000	---	---
22	181000	193	94500	205000	285	158000	183000	---	---
23	194000	238	125000	221000	441	263000	171000	---	---
24	197000	199	106000	259000	681	476000	157000	---	---
25	200000	208	112000	305000	653	538000	147000	---	---
26	195000	220	116000	336000	733	665000	140000	---	---
27	190000	212	109000	332000	867	778000	135000	---	---
28	185000	166	83100	340000	765	702000	132000	---	---
29	183000	149	73700	350000	843	797000	133000	---	---
30	181000	141	68700	371000	971	972000	130000	---	---
31	174000	140	65700	---	---	---	129000	---	---
TOTAL	4642000	---	1826700	6656000	---	8582800	8461000	---	10814000
		JANUARY			FEBRUARY			MARCH	
1	134000	---	---	141000	134	51000	360000	280	272000
2	136000	---	---	141000	107	40700	365000	289	285000
3	135000	---	---	148000	171	68400	371000	351	352000
4	136000	---	---	167000	144	65000	381000	320	330000
5	139000	---	---	179000	114	55100	408000	265	292000
6	139000	---	---	174000	116	54300	440000	408	485000
7	140000	---	---	164000	130	57400	473000	742	948000
8	144000	---	---	158000	165	70200	460000	443	550000
9	151000	---	---	158000	226	96500	441000	300	358000
10	158000	---	---	159000	163	70100	415000	229	257000
11	167000	---	---	161000	139	60400	381000	203	209000
12	178000	---	---	167000	168	75800	347000	216	203000
13	175000	---	---	184000	194	96300	312000	303	255000
14	176000	---	---	201000	295	160000	283000	292	223000
15	175000	---	---	221000	456	290000	261000	182	128000
16	169000	---	---	251000	430	291000	246000	178	118000
17	166000	---	---	280000	370	280000	276000	168	125000
18	162000	---	---	300000	412	334000	335000	313	283000
19	157000	---	---	323000	518	452000	387000	494	516000
20	152000	---	---	340000	590	541000	422000	653	744000
21	149000	---	---	360000	631	613000	461000	857	1070000
22	145000	---	---	371000	512	513000	497000	885	1190000
23	136000	---	---	373000	450	453000	513000	985	1360000
24	132000	254	90400	372000	418	420000	503000	---	---
25	131000	218	77300	366000	454	449000	490000	---	---
26	133000	153	54800	357000	472	455000	490000	---	---
27	131000	176	62300	352000	437	415000	499000	---	---
28	138000	173	64600	352000	390	370000	517000	---	---
29	148000	111	44200	353000	332	317000	541000	---	---
30	149000	121	48700	---	---	---	543000	---	---
31	145000	163	63700	---	---	---	539000	---	---
TOTAL	4626000	---	506000	7273000	---	7214200	12957000	---	10553000

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07022000 MISSISSIPPI RIVER AT THEBES, IL--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		APRIL			MAY			JUNE	
1	531000	---	---	534000	703	1010000	445000	903	1090000
2	515000	---	---	511000	1280	1760000	441000	773	920000
3	499000	---	---	493000	626	833000	432000	848	989000
4	494000	---	---	490000	688	911000	423000	690	788000
5	487000	559	735000	489000	1110	1470000	415000	726	813000
6	498000	511	687000	493000	1400	1870000	402000	443	481000
7	513000	495	685000	511000	1170	1610000	395000	461	492000
8	529000	533	762000	522000	861	1210000	368000	464	461000
9	539000	838	1220000	526000	692	982000	354000	453	433000
10	539000	804	1170000	525000	575	815000	339000	394	361000
11	541000	716	1050000	522000	511	720000	352000	539	512000
12	544000	700	1030000	517000	442	617000	394000	725	771000
13	549000	505	748000	509000	446	614000	429000	1840	2130000
14	548000	903	1340000	500000	440	594000	456000	2030	2490000
15	544000	815	1200000	493000	393	523000	472000	1330	1690000
16	537000	708	1030000	493000	423	562000	484000	1090	1430000
17	534000	855	1230000	493000	540	718000	487000	959	1260000
18	524000	833	1180000	496000	554	741000	484000	844	1100000
19	508000	757	1040000	494000	664	886000	480000	795	1030000
20	489000	638	842000	485000	652	854000	477000	930	1200000
21	477000	667	859000	470000	539	684000	472000	965	1230000
22	485000	771	1010000	456000	608	749000	470000	881	1120000
23	510000	765	1050000	450000	657	798000	469000	907	1150000
24	549000	959	1420000	453000	736	900000	472000	688	877000
25	591000	666	1060000	457000	964	1190000	474000	687	879000
26	618000	668	1110000	461000	991	1230000	479000	667	863000
27	627000	699	1180000	460000	908	1130000	484000	648	847000
28	611000	761	1260000	457000	766	945000	491000	674	893000
29	586000	598	947000	452000	1000	1220000	496000	789	1060000
30	558000	618	932000	446000	1090	1310000	498000	465	626000
31	---	---	---	445000	916	1100000	---	---	---
TOTAL	16074000	---	26777000	15103000	---	30556000	13334000	---	29986000

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		JULY			AUGUST			SEPTEMBER	
1	496000	424	568000	229000	283	175000	124000	193	64800
2	493000	499	664000	208000	287	161000	127000	148	50800
3	487000	578	760000	198000	282	151000	122000	163	53700
4	476000	586	753000	187000	242	122000	118000	159	50700
5	479000	487	630000	184000	220	110000	111000	176	52800
6	477000	482	621000	185000	210	105000	106000	139	39900
7	476000	468	601000	182000	191	93600	104000	189	53000
8	476000	471	606000	174000	199	93600	101000	408	111000
9	476000	484	621000	166000	214	96100	106000	198	56600
10	473000	702	896000	164000	181	80200	114000	249	76500
11	465000	648	814000	172000	179	83100	126000	355	121000
12	449000	555	673000	173000	198	92600	152000	654	268000
13	431000	541	629000	170000	183	84100	162000	618	270000
14	408000	540	594000	169000	175	80000	154000	555	231000
15	383000	543	561000	171000	173	79700	135000	434	158000
16	370000	537	537000	167000	171	77300	129000	314	109000
17	359000	450	436000	166000	173	77700	129000	237	82600
18	350000	485	459000	168000	172	78100	131000	261	92300
19	344000	590	548000	162000	165	72400	139000	276	103000
20	339000	544	498000	154000	155	64600	136000	241	88300
21	330000	551	491000	151000	153	62200	124000	217	72600
22	321000	476	413000	149000	154	61900	118000	213	68000
23	313000	383	324000	142000	154	58900	126000	341	116000
24	304000	368	302000	139000	178	66700	149000	656	264000
25	293000	360	285000	140000	173	65300	149000	349	140000
26	281000	351	266000	138000	194	72400	142000	450	173000
27	274000	345	255000	131000	197	69800	129000	519	181000
28	271000	313	229000	124000	153	51300	124000	329	110000
29	272000	306	224000	118000	167	53300	127000	313	107000
30	268000	310	224000	115000	176	54800	128000	---	108000
31	254000	292	200000	116000	159	49900	---	---	---
TOTAL	11888000	---	15682000	5012000	---	2643600	3842000	---	3472600
YEAR	109868000		148613900						

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07034000 ST. FRANCIS RIVER NEAR ROSELLE, MO

LOCATION.--Lat 37°35'45", long 90°29'50", in NE¼, sec.7, T.33 N., R.5 E., Madison County, Hydrologic Unit 08020202, on State Highway 72, 0.25 mi above Stouts Creek and 1.5 mi east of Roselle.

DRAINAGE AREA.--234 mi^2.

PERIOD OF RECORD.--June 1983 to Sept. 1983.

GAGE.--Water-stage recorder. Datum of gage is 684.99 ft National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. Several observations of water temperature and specific conductance were made during the year.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 581 ft^3/s June 27, 1983, gage height 4.27 ft; minimum, 0.76 ft^3/s Aug. 22, 1983.

DISCHARGE (CUBIC FEET/SECOND) WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1									---	37	3.3	1.6
2									---	25	2.8	1.5
3									---	17	2.4	1.4
4									---	14	2.1	1.3
5									---	14	2.0	1.2
6									---	12	2.0	1.2
7									---	11	2.0	1.2
8									---	9.5	2.0	1.2
9									60	8.2	1.7	1.0
10									54	7.0	1.5	.91
11									46	6.3	1.4	.85
12									40	6.0	1.4	1.3
13									35	5.4	1.3	2.2
14									29	4.6	1.2	2.3
15									29	4.8	1.2	2.0
16									25	4.6	1.1	1.7
17									22	3.9	1.2	1.8
18									19	3.5	1.2	2.5
19									17	3.3	1.2	2.4
20									16	3.1	1.2	2.1
21									25	2.8	1.1	1.9
22									32	2.5	1.0	1.6
23									21	2.1	1.4	1.4
24									17	2.0	1.1	1.3
25									14	1.9	.92	1.3
26									12	2.8	.83	1.5
27									66	3.1	1.6	1.4
28									403	7.2	2.6	1.4
29									153	7.2	2.5	1.3
30									60	5.4	2.0	1.3
31									---	4.1	1.8	---
TOTAL									---	241.3	51.05	46.06
MEAN									---	7.78	1.65	1.54
MAX									---	37	3.3	2.5
MIN									---	1.9	.83	.85

07034000 ST. FRANCIS RIVER NEAR ROSELLE, MO

LOCATION.--Lat 37°35'45", long 90°29'50", in NE¼, sec.7, T.33 N., R.5 E., Madison County, Hydrologic Unit 08020202, on State Highway 72, 0.25 mi above Stouts Creek and 1.5 mi east of Roselle.

DRAINAGE AREA.--234 mi².

PERIOD OF RECORD.--June 1983 to current year.

GAGE.--Water-stage recorder. Datum of gage is 684.99 ft National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. Several observations of water temperature and specific conductance were made during the year.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 17,700 ft³/s Nov. 23, 1983, gage height 14.42 ft; minimum, 0.76 ft³/s Aug. 22, 1983.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 17,700 ft³/s Nov. 23, gage height, 14.42 ft; minimum, 1.2 ft³/s Oct. 1-4.

DISCHARGE (CUBIC FEET/SECOND) WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.3	8.7	261	45	96	122	382	225	103	9.2	3.5	2.9
2	1.3	32	236	45	96	151	315	188	87	8.4	3.3	2.8
3	1.2	114	620	48	108	295	674	180	75	7.8	3.5	2.8
4	2.7	247	2810	57	120	1690	1410	190	63	9.3	4.5	2.8
5	5.2	164	901	91	110	2110	779	191	54	255	12	2.7
6	12	103	666	159	88	839	508	254	47	124	12	2.6
7	21	77	440	132	79	507	372	677	42	47	8.8	2.3
8	13	62	312	150	75	374	552	947	38	26	8.0	2.3
9	11	52	241	140	74	283	1110	533	33	20	358	53
10	9.7	53	603	128	119	236	699	352	29	17	63	104
11	9.5	61	5120	104	279	213	513	268	25	14	17	352
12	12	67	1760	91	1320	200	449	210	21	13	11	203
13	13	62	778	82	1790	227	498	182	17	9.5	8.0	67
14	13	55	629	71	813	317	356	201	16	7.7	5.7	41
15	21	51	486	65	501	334	290	170	24	6.0	4.6	30
16	26	47	331	60	362	613	265	144	137	4.8	4.1	22
17	26	42	245	52	292	1350	246	126	79	3.5	4.0	17
18	37	37	201	52	243	1430	214	112	36	2.6	3.7	15
19	35	800	147	46	225	4360	184	102	22	1.9	3.6	14
20	56	5170	146	44	193	2620	164	91	18	1.4	3.9	14
21	152	990	137	39	161	968	5720	89	30	1.5	4.0	15
22	161	476	121	37	148	623	2640	82	27	1.8	4.3	70
23	109	8740	101	40	135	439	939	469	22	2.1	4.5	1390
24	59	4380	82	54	121	425	618	225	19	1.8	4.3	378
25	38	736	68	196	110	778	446	130	29	1.6	6.6	180
26	28	441	62	154	100	554	344	328	22	3.0	7.8	147
27	20	1520	62	131	103	478	289	306	15	4.2	6.4	137
28	15	2170	64	117	111	1570	250	263	13	4.9	5.3	109
29	13	667	60	117	117	1700	206	210	11	4.4	4.1	85
30	11	378	52	116	---	747	242	158	10	3.9	3.8	70
31	9.4	---	48	104	---	500	---	125	---	3.7	3.3	---
TOTAL	942.3	27802.7	17790	2767	8089	27058	21674	7728	1164	621.0	596.6	3534.2
MEAN	30.4	927	574	89.3	279	873	722	249	38.8	20.0	19.2	118
MAX	161	8740	5120	196	1790	4360	5720	947	137	255	358	1390
MIN	1.2	8.7	48	37	74	122	164	82	10	1.4	3.3	2.3

WTR YR 1984 TOTAL 119766.8 MEAN 327 MAX 8740 MIN 1.2

07035000 LITTLE ST. FRANCIS RIVER AT FREDERICKTOWN, MO

LOCATION.--Lat 37°33'33", long 90°18'46", in NW¼ sec. 7, T.33 N., R.7 E., Madison County, Hydrologic Unit 08020202, mi downstream from Village Creek, 1.3 mi below City Lake, and 1.0 mi west of courthouse in Fredericktown.

DRAINAGE AREA.--90.5 mi².

PERIOD OF RECORD.--June 1983 to current year.

GAGE.--Water-stage recorder. Datum of gage is 679.23 ft National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair. Several observations of water temperature and specific conductance were made during the year.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,610 ft³/s Nov. 23, 1983, gage height, 13.01 ft; minimum, 0.66 ft³/s Oct. 8, 11, 16, 17, 1983.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,610 ft³/s Nov. 23, gage height, 13.01 ft; minimum, 0.66 ft³/s Oct. 8, 11, 16, 17.

DISCHARGE (CUBIC FEET/SECOND) WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.88	7.4	230	31	39	57	154	187	31	3.4	1.6	1.2
2	.87	51	283	32	39	71	142	139	26	3.4	1.3	2.8
3	.90	227	504	35	53	119	258	122	23	3.2	4.1	3.9
4	30	229	828	45	54	369	396	131	20	54	3.0	2.0
5	11	116	635	60	49	456	245	105	20	224	2.2	1.6
6	1.2	59	274	57	33	252	187	269	18	43	1.6	1.5
7	.94	41	213	40	32	175	153	737	16	19	1.3	1.4
8	.82	32	167	60	33	136	184	433	15	14	7.6	79
9	.79	29	138	64	35	107	235	240	13	11	12	46
10	.89	38	259	50	53	98	193	175	12	9.2	12	126
11	1.0	36	1290	45	79	83	163	139	15	8.8	12	209
12	7.9	31	433	40	500	86	160	111	13	11	8.6	39
13	1.5	29	274	37	480	98	150	106	10	8.0	5.0	19
14	1.0	27	256	35	266	116	124	94	21	5.8	3.2	13
15	.87	25	195	33	176	111	113	74	49	4.7	2.4	8.6
16	.80	21	149	31	153	162	104	60	96	4.9	2.0	7.3
17	.76	19	121	29	127	421	94	50	24	3.7	1.8	6.2
18	.90	18	104	28	112	397	84	42	16	3.0	1.7	5.4
19	.96	173	83	27	103	1010	74	36	20	2.4	2.1	4.4
20	11	1240	77	26	80	688	73	33	13	2.0	1.9	3.7
21	41	317	77	25	77	306	1240	30	11	1.9	1.5	63
22	156	223	67	27	70	226	596	28	11	2.0	5.6	765
23	59	2350	54	30	64	178	303	157	20	2.0	3.4	182
24	31	604	48	40	58	196	224	69	14	1.7	2.0	108
25	21	330	47	95	52	273	173	41	9.7	1.3	1.7	85
26	16	272	47	70	52	205	142	100	7.9	1.7	1.5	54
27	12	459	50	60	61	180	122	89	7.3	2.0	1.5	40
28	11	466	44	50	56	499	102	90	6.7	1.9	1.3	30
29	11	301	40	45	54	367	298	70	5.4	1.6	1.2	23
30	9.7	255	35	43	---	235	379	50	4.1	1.4	1.3	21
31	8.3	---	30	40	---	183	---	38	---	1.4	1.2	---
TOTAL	450.98	8025.4	7052	1330	3040	7860	6865	4045	568.1	457.4	109.6	1952.0
MEAN	14.5	268	227	42.9	105	254	229	130	18.9	14.8	3.54	65.1
MAX	156	2350	1290	95	500	1010	1240	737	96	224	12	765
MIN	.76	7.4	30	25	32	57	73	28	4.1	1.3	1.2	1.2

WTR YR 1984 TOTAL 41755.48 MEAN 114 MAX 2350 MIN .76

07036100 ST. FRANCIS RIVER NEAR SACO, MO

LOCATION.--Lat 37°23'06", long 90°28'27", in NE¼SE¼NE¼ sec.10, T.31 N., R.5 E., Madison County, Hydrologic Unit 08020202, on right bank at downstream side of State Highway C bridge, 1.3 mi downstream from Twelvemile Creek, and 3.5 mi northwest of Saco.

DRAINAGE AREA.--664 mi².

PERIOD OF RECORD.--June 1983 to Sept. 1983.

GAGE.--Water-stage recorder. Datum of gage is 472.00 ft National Geodetic Vertical Datum of 1929.

REMARKS.--Records good.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,350 ft³/s June 28, 1983, gage height, 9.65 ft; minimum, 4.0 ft³/s Sept. 19, 20, 24, 1983.

DISCHARGE (CUBIC FEET/SECOND) WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1									---	101	23	9.5
2									---	66	25	8.8
3									---	45	19	6.9
4									---	28	18	7.0
5									---	63	17	7.0
6									---	90	19	6.0
7									---	81	22	6.9
8									---	73	16	7.0
9									---	65	14	7.2
10									150	59	13	6.9
11									140	53	11	6.2
12									130	49	10	6.4
13									120	45	9.6	6.4
14									110	42	10	6.2
15									100	35	10	5.2
16									95	32	8.6	5.0
17									90	32	7.3	5.0
18									85	30	6.6	5.0
19									83	28	5.8	4.9
20									82	27	5.7	5.1
21									80	26	5.5	5.7
22									78	21	6.9	5.7
23									78	19	20	5.7
24									76	16	20	4.7
25									67	16	19	4.8
26									63	16	26	6.6
27									64	15	21	7.7
28									2500	14	15	8.5
29									476	15	13	9.0
30									178	15	11	8.8
31									---	14	9.8	---
TOTAL									---	1231	437.8	195.8
MEAN									---	39.7	14.1	6.53
MAX									---	101	26	9.5
MIN									---	14	5.5	4.7

07036100 ST. FRANCIS RIVER NEAR SACO, MO

LOCATION.--Lat 37°23'06", long 90°28'27", in NE¼SE¼NE¼ sec.10, T.31 N., R.5 E., Madison County, Hydrologic Unit 08020202, on right bank at downstream side of State Highway C bridge, 1.3 mi downstream from Twelvemile Creek, and 3.5 mi northwest of Saco.

DRAINAGE AREA.--664 mi².

WATER DISCHARGE RECORDS

PERIOD OF RECORD.--June 1983 to current year.

GAGE.--Water-stage recorder. Datum of gage is 472.00 ft National Geodetic Vertical Datum of 1929.

REMARKS.--Water discharge records good.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 29,000 ft³/s Nov. 23, 1983, gage height, 18.25 ft; minimum, 4.0 ft³/s Sept. 24, 1983.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 29,000 ft³/s Nov. 23, gage height 18.25 ft; minimum, 7.0 ft³/s Oct. 2-4.

DISCHARGE (CUBIC FEET/SECOND) WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.5	68	1100	203	404	385	1230	1370	205	48	12	15
2	7.4	92	1110	199	380	400	970	861	181	44	13	14
3	7.2	1040	2620	201	404	700	1750	710	164	41	13	13
4	14	1870	8910	209	426	2500	3910	637	148	45	17	13
5	25	1030	3850	259	410	5000	2720	570	137	143	21	12
6	57	629	2720	338	350	2400	1660	2160	130	368	20	11
7	68	470	1820	398	322	1400	1140	6480	121	183	18	11
8	48	392	1260	338	312	908	1210	5610	113	122	26	10
9	39	342	914	322	297	616	3240	2690	108	95	83	18
10	38	327	984	356	312	560	2230	1690	101	78	281	71
11	33	323	12300	350	549	506	1560	1210	94	68	138	365
12	38	304	7040	322	1500	458	1240	922	89	62	96	708
13	40	289	3030	307	5000	484	1250	767	84	54	71	238
14	41	271	2160	282	3000	580	975	713	83	52	58	137
15	51	250	1780	257	1500	667	791	626	80	48	50	100
16	46	231	1210	244	1200	909	696	525	128	44	43	79
17	42	199	905	230	997	3520	619	423	229	39	36	67
18	42	198	746	219	828	4810	541	407	149	33	31	58
19	40	246	631	209	750	11200	463	362	108	30	28	51
20	54	12900	556	189	695	8440	406	320	93	27	25	45
21	136	4310	527	177	600	3450	7510	307	91	24	21	40
22	496	1850	487	168	500	1960	9530	294	85	20	23	56
23	425	14800	389	187	450	1330	3400	310	102	18	25	3070
24	284	12300	352	237	400	1110	2000	612	103	18	27	1570
25	206	3090	312	468	375	1810	1360	302	90	17	26	604
26	159	1790	289	596	350	1620	959	242	81	20	22	496
27	130	2550	269	505	350	1250	781	483	75	16	19	397
28	116	7060	264	469	350	3160	658	398	70	15	18	331
29	101	2870	244	465	375	6220	646	350	62	13	18	276
30	88	1640	221	462	---	2750	3100	297	53	13	18	232
31	78	---	207	437	---	1710	---	232	---	12	18	---
TOTAL	2957.1	73731	59207	9603	23386	72813	58545	32880	3357	1810	1315	9108
MEAN	95.4	2458	1910	310	806	2349	1952	1061	112	58.4	42.4	304
MAX	496	14800	12300	596	5000	11200	9530	6480	229	368	281	3070
MIN	7.2	68	207	168	297	385	406	232	53	12	12	10

WTR YR 1984 TOTAL 348712.1 MEAN 953 MAX 14800 MIN 7.2

07036100 ST. FRANCIS RIVER NEAR SACO, MO.--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1982 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	TIME	AGENCY ANALYZING SAMPLE (CODE NUMBER) (00028)	STREAMFLOW, INSTANTANEOUS (CFS) (00061)	SPECIFIC CONDUCTANCE (UMHOS) (00095)	PH (STANDARD UNITS) (00400)	TEMPERATURE (DEG C) (00010)	OXYGEN, DISSOLVED (MG/L) (00300)	OXYGEN, DISSOLVED (PERCENT SATURATION) (00301)	OXYGEN DEMAND, CHEMICAL (LOW LEVEL) (MG/L) (00335)	OXYGEN DEMAND, CHEMICAL (HIGH LEVEL) (MG/L) (00340)	COLIFORM, FECAL, 0.7 UM-MF (COLS./100 ML) (31625)
OCT											
04...	1300	29001	17	221	7.6	21.5	6.0	69	<5	--	80
NOV											
09...	1350	29001	341	195	7.3	15.0	9.6	94	10	--	29
JAN											
05...	0915	29001	247	238	7.7	2.0	12.6	92	<5	--	36
26...	1350	29001	631	230	7.3	1.5	6.6	48	27	--	400
FEB											
17...	0815	29001	1030	149	8.0	8.0	11.2	96	<5	--	K68
MAR											
08...	1315	29001	895	150	7.0	6.5	10.6	87	7	--	29
APR											
03...	1350	29001	1900	160	7.9	12.0	11.1	102	7	--	90
MAY											
01...	1140	29001	1350	130	7.4	16.0	5.6	55	<5	--	--
JUN											
05...	1235	29001	131	186	7.8	24.5	8.6	101	7	--	K20
JUL											
17...	1100	80020	40	225	7.5	25.0	5.2	62	--	26	K20
AUG											
23...	1500	80020	25	218	7.5	24.0	6.0	70	--	<10	K28
SEP											
10...	1450	80020	105	191	7.6	22.0	7.0	79	--	30	150

DATE	HARDNESS (MG/L AS CACO3) (00900)	HARDNESS, NONCARBONATE (MG/L CACO3) (00902)	CALCIUM DISSOLVED (MG/L AS CA) (00915)	MAGNESIUM, DISSOLVED (MG/L AS MG) (00925)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	POTASSIUM, DISSOLVED (MG/L AS K) (00935)	ALKALINITY FIELD (MG/L AS CACO3) (00410)	CARBON DIOXIDE DISSOLVED (MG/L AS CO2) (00405)	SULFATE DISSOLVED (MG/L AS SO4) (00945)	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)
OCT										
04...	110	0	21	15	2.9	2.4	121	5.9	7.0	5.0
NOV										
09...	--	--	--	--	--	--	79	7.7	--	--
JAN										
05...	--	--	--	--	--	--	96	3.7	--	--
26...	--	--	--	9.7	5.1	4.3	75	7.3	19	10
FEB										
17...	--	--	--	--	--	--	51	1.0	--	--
MAR										
08...	--	--	--	--	--	--	47	9.1	--	--
APR										
03...	63	16	12	8.1	2.8	1.2	47	1.1	16	3.0
MAY										
01...	--	--	--	--	--	--	47	3.6	--	--
JUN										
05...	--	--	--	--	--	--	79	2.4	--	--
JUL										
17...	94	15	18	12	5.4	2.9	79	4.8	16	6.5
AUG										
23...	--	--	--	--	--	--	82	5.0	--	--
SEP										
10...	--	--	--	--	--	--	81	3.9	--	--

K--Results based on colony count outside the acceptable range (non-ideal colony count).

07036100 ST. FRANCIS RIVER NEAR SACO, MO--Continued

DATE	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L) (00530)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	PHOS-PHORUS, TOTAL (MG/L AS P) (00665)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD) (01027)	CADMIUM DIS-SOLVED (UG/L AS CD) (01025)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)
OCT										
04...	.10	120	6	<.05	.010	<.050	<2	<2	<5	<5
NOV										
09...	--	--	4	.71	.020	<.050	--	--	--	--
JAN										
05...	--	--	8	1.3	.120	.060	--	--	--	--
26...	.10	147	6	.81	.440	.310	<2	<2	<5	<5
FEB										
17...	--	--	11	.65	.030	<.050	--	--	--	--
MAR										
08...	--	--	5	.44	.060	<.050	--	--	--	--
APR										
03...	<.10	94	8	.50	.020	<.050	<2	<2	<5	<5
MAY										
01...	--	--	16	.24	.010	<.050	--	--	--	--
JUN										
05...	--	--	7	.08	.030	<.050	--	--	--	--
JUL										
17...	.10	121	<2	<.10	.020	.020	<1	<1	8	5
AUG										
23...	--	--	8	<.10	.010	.020	--	--	--	--
SEP										
10...	--	--	3	<.10	<.010	.010	--	--	--	--

DATE	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB) (01051)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG) (71900)	MERCURY DIS-SOLVED (UG/L AS HG) (71890)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN) (01092)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)
OCT										
04...	190	<20	<5	<5	48	<20	<.2	<.2	<10	<10
NOV										
09...	--	--	--	--	--	--	--	--	--	--
JAN										
05...	--	--	--	--	--	--	--	--	--	--
26...	450	80	7	<5	50	44	<.2	<.2	30	15
FEB										
17...	--	--	--	--	--	--	--	--	--	--
MAR										
08...	--	--	--	--	--	--	--	--	--	--
APR										
03...	360	70	10	<5	29	<20	<.2	<.2	10	<10
MAY										
01...	--	--	--	--	--	--	--	--	--	--
JUN										
05...	--	--	--	--	--	--	--	--	--	--
JUL										
17...	90	14	<1	4	90	52	<.1	<.1	30	21
AUG										
23...	--	--	--	--	--	--	--	--	--	--
SEP										
10...	--	--	--	--	--	--	--	--	--	--

07036940 BIG CREEK AT CHLORIDE, MO

WATER-QUALITY RECORDS

LOCATION.--Lat. 37°27'42", long. 90°41'10", in SW¼NE¼ sec. 14, T.32 N., R.3 E., Iron County, Hydrologic Unit 08020202, at bridge on county road.

PERIOD OF RECORD.--Partial-record station 1969 to 1975 water year; October 1982 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	TIME	AGENCY ANA-LYZING SAMPLE (CODE NUMBER) (00028)	STREAM-FLOW, INSTAN-TANEOUS (CFS) (00061)	SPE-CIFIC CON-DUCT-ANCE (UMHOS) (00095)	PH (STAND-ARD UNITS) (00400)	TEMPER-ATURE (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD) (01027)	CADMIUM DIS-SOLVED (UG/L AS CD) (01025)	COBALT, TOTAL RECOV-ERABLE (UG/L AS CO) (01037)
OCT											
04...	1135	29001	5.4	495	7.4	20.0	7.0	78	22	10	<60
NOV											
09...	1515	29001	5.7	252	7.1	15.0	7.6	75	18	17	<60
JAN											
05...	1105	29001	2.4	233	6.7	3.0	9.6	73	16	13	<60
26...	1541	29001	2.4	219	7.2	5.0	12.2	98	17	14	<60
FEB											
17...	1000	29001	9.4	152	6.9	7.0	12.0	101	22	20	<60
MAR											
08...	1430	29001	17	141	6.9	7.5	11.0	93	7	6	<60
APR											
03...	1200	29001	118	112	7.6	10.5	11.1	99	11	<2	<60
MAY											
01...	1030	29001	13	159	7.3	12.5	5.8	53	6	4	<60
JUN											
05...	1130	29001	2.5	256	7.6	21.0	4.4	48	11	9	<60
JUL											
16...	1345	80020	1.1	362	8.4	27.0	8.6	107	24	7	<1
AUG											
24...	0840	80020	3.1	329	7.5	16.5	7.0	71	23	18	1
SEP											
10...	1310	80020	2.5	382	8.1	22.0	9.0	102	90	39	4

DATE	COBALT, DIS-SOLVED (UG/L AS CO) (01035)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB) (01051)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI) (01067)	NICKEL, DIS-SOLVED (UG/L AS NI) (01065)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN) (01092)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)
OCT											
04...	<60	<5	<5	100	<20	37	6	<50	<50	30	62
NOV											
09...	<60	<5	<5	140	30	10	5	<50	<50	60	68
JAN											
05...	<60	<5	<5	110	50	16	<5	<50	<50	40	44
26...	<60	<5	<5	<20	20	23	<5	<50	<50	90	78
FEB											
17...	<60	<5	<5	40	<20	<5	<5	<50	<50	60	63
MAR											
08...	<60	<5	<5	130	20	15	<5	<50	<50	30	27
APR											
03...	<60	<5	<5	200	20	7	<5	<50	<50	60	50
MAY											
01...	<60	<5	<5	100	<20	<5	<5	<50	<50	30	20
JUN											
05...	<60	<5	<5	130	60	5	<5	<50	<50	30	21
JUL											
16...	<1	6	<1	170	8	72	<1	23	3	50	15
AUG											
24...	<1	9	5	140	40	100	60	5	6	70	55
SEP											
10...	2	10	5	180	7	220	130	10	6	110	84

07037000 BIG CREEK AT DES ARC, MO

LOCATION.--Lat 37°17'35", long 90°37'45", in SE¼ sec.8, T.30 N., R.4 E., Iron County, Hydrologic Unit 08020202, at bridge on State Highway 143 at north edge of Des Arc, 420 ft above Black Creek and 6 mi above Pond Creek.

DRAINAGE AREA.--99.6 mi^2.

PERIOD OF RECORD.--July 1983 to Sept. 1983.

GAGE.--Water-stage recorder. Datum of gage is 507.89 ft National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair. Several observations of water temperature and specific conductance were made during the year.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 23 ft^3/s July 18-20, 1983, minimum daily, 4.9 ft^3/s Sept. 3, 5.

DISCHARGE (CUBIC FEET/SECOND) WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1										---	12	5.2
2										---	11	5.0
3										---	10	4.9
4										---	9.9	5.0
5										---	9.8	4.9
6										---	9.5	5.0
7										---	9.6	6.2
8										---	9.9	6.3
9										---	9.8	6.1
10										---	9.4	5.9
11										---	8.7	5.9
12										---	8.4	5.9
13										---	7.9	5.8
14										---	7.9	5.9
15										23	7.7	5.9
16										22	7.5	6.0
17										22	7.0	6.2
18										23	6.8	6.3
19										23	6.9	6.1
20										23	6.4	6.5
21										21	6.3	6.9
22										18	5.9	6.6
23										15	5.8	7.0
24										13	5.7	7.6
25										13	5.6	8.0
26										13	5.5	8.6
27										13	5.4	8.7
28										12	5.4	8.9
29										12	5.2	8.9
30										12	5.4	8.7
31										12	5.4	---
TOTAL										---	237.7	194.9
MEAN										---	7.67	6.50
MAX										---	12	8.9
MIN										---	5.2	4.9

07037000 BIG CREEK AT DES ARC, MO

LOCATION.--Lat 37°17'35", long 90°37'45", in SE¼ sec.8, T.30 N., R.4 E., Iron County, Hydrologic Unit 08020202, at bridge on State Highway 143 at north edge of Des Arc, 420 ft above Black Creek and 6 mi above Pond Creek.

DRAINAGE AREA.--99.6 mi².

PERIOD OF RECORD.--July 1983 to present.

GAGE.--Water-stage recorder. Datum of gage is 507.89 ft National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair. Several observations of water temperature and specific conductance were made during the year.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,950 ft³/s Nov. 23, 1983, gage height, 9.38 ft; minimum, 5.2 ft³/s Aug. 28-30, 1983.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,950 ft³/s Nov. 23, gage height, 9.38 ft; minimum, 8.2 ft³/s Aug. 3.

DISCHARGE (CUBIC FEET/SECOND) WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.7	24	118	36	62	42	263	210	40	17	8.7	15
2	8.7	29	119	35	58	44	235	184	39	16	8.4	14
3	9.2	147	504	34	60	51	355	174	36	16	10	14
4	14	219	1320	33	59	130	439	163	34	16	11	15
5	20	160	571	34	54	270	347	147	32	28	11	13
6	17	112	396	35	49	229	284	399	31	31	12	12
7	15	33	276	34	48	183	243	1140	29	25	11	12
8	14	65	219	33	45	156	285	871	28	21	12	12
9	13	54	179	34	41	131	528	405	27	21	97	17
10	13	48	184	39	42	121	376	284	26	17	54	19
11	13	42	1380	40	88	115	305	230	25	15	41	36
12	15	38	884	37	228	105	274	191	23	14	37	37
13	15	35	499	36	572	104	249	163	21	14	29	29
14	15	33	378	34	417	107	220	140	20	13	21	25
15	15	31	304	32	274	114	199	121	21	13	18	22
16	15	27	247	31	210	115	178	108	34	12	16	22
17	16	25	212	28	174	283	161	95	31	13	14	21
18	15	24	187	28	147	713	145	83	27	12	13	19
19	14	99	160	24	130	1650	131	73	25	11	12	19
20	22	1850	143	24	107	1100	115	67	23	11	11	18
21	40	892	136	21	99	570	735	61	23	11	14	18
22	56	584	119	22	87	403	768	56	22	10	30	24
23	53	2230	103	28	77	321	424	53	21	11	28	161
24	42	936	84	34	70	291	319	47	27	10	22	148
25	36	401	74	39	61	276	266	43	29	9.7	20	103
26	32	235	67	44	54	250	232	46	25	9.4	20	92
27	29	327	62	47	55	234	207	50	23	9.2	21	71
28	27	644	56	56	50	663	183	56	23	8.9	19	61
29	26	307	47	63	45	783	189	48	20	9.2	18	51
30	26	183	40	66	---	470	263	44	18	9.4	17	44
31	26	---	38	65	---	315	---	41	---	8.9	15	---
TOTAL	680.6	9884	9106	1146	3463	10339	8918	5793	803	442.7	671.1	1164
MEAN	22.0	329	294	37.0	119	334	297	187	26.8	14.3	21.6	38.8
MAX	56	2230	1380	66	572	1650	768	1140	40	31	97	161
MIN	8.7	24	38	21	41	42	115	41	18	8.9	8.4	12

WTR YR 1984 TOTAL 52410.4 MEAN 143 MAX 2230 MIN 8.4

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07037500 ST. FRANCIS RIVER NEAR PATTERSON, MO

LOCATION.--Lat 37°11'40", long 90°30'12", in NE¼ sec.16, T.29 N., R.5 E., Wayne County, Hydrologic Unit 08020202, near left bank on downstream side of pier of bridge on State Highway 34, 1 mi upstream from Clark Creek, and 3 mi east of Patterson.

DRAINAGE AREA.--956 mi^2.

PERIOD OF RECORD.--October 1920 to current year. Prior to June 1921, monthly discharge only, published in WSP 1311.

REVISED RECORDS.--WSP 732: 1922-23.

GAGE.--Water-stage recorder. Datum of gage is 370.45 ft National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1938, nonrecording gage at site 50 ft upstream at datum 2.00 ft higher. Oct. 1, 1938, to Apr. 12, 1939, nonrecording gage and Apr. 13, 1939, to Sept. 5, 1956, water-stage recorder at site 50 ft upstream at present datum. Sept. 6, 1956, to Sept. 26, 1958, nonrecording gage at present site and datum.

REMARKS.--Records fair. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--64 years, 1,106 ft^3/s, 15.72 in/yr, 801,300 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 155,000 ft^3/s Dec. 3, 1982, gage height, 35.77 ft, from contracted opening measurement; minimum discharge, 8 ft^3/s Aug. 28 to Sept. 1, 1936.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood on Aug. 1915 reached a stage of 33.8 ft, present datum, from floodmarks, discharge, 100,000 ft^3/s, from rating curve extended above 55,000 ft^3/s.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 26,900 ft^3/s Nov. 24, gage height, 20.68 ft, no other peak above base of 21,000 ft^3/s; minimum, 23 ft^3/s Oct. 3.

DISCHARGE (CUBIC FEET/SECOND) WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	24	136	1910	311	600	492	2210	2650	405	90	40	41
2	24	144	1590	304	575	495	1770	1600	362	84	39	40
3	25	260	2520	308	571	533	2430	1090	327	76	38	42
4	46	1680	9990	299	590	805	3800	1000	299	87	50	40
5	70	1940	7650	297	595	3500	4290	903	275	299	47	38
6	67	1130	4060	327	574	5300	2920	2120	256	375	46	36
7	64	790	3080	386	519	2250	2070	9050	239	327	47	35
8	81	607	2050	438	473	1530	1990	9040	226	208	47	34
9	86	503	1540	388	425	1180	3700	4530	209	166	50	48
10	72	448	1310	384	429	957	3660	2750	192	136	80	48
11	68	411	9210	395	689	822	2740	1970	177	117	268	98
12	80	392	14000	391	1730	742	2180	1570	165	108	196	580
13	82	366	6170	348	5180	719	1990	1320	152	100	148	645
14	76	343	3670	335	5050	745	1740	1200	141	92	115	305
15	73	321	2860	325	2940	876	1460	1130	135	88	95	190
16	72	296	2180	315	1970	994	1270	1020	143	81	64	138
17	82	274	1660	300	1680	2460	1130	864	165	78	74	112
18	90	252	1370	290	1390	6680	1000	726	290	73	68	97
19	84	264	1160	285	1190	13900	884	636	233	70	64	85
20	89	8280	1010	280	1060	13600	774	569	179	65	58	77
21	125	10100	941	275	920	6450	6670	521	155	60	55	71
22	293	3430	861	270	795	3590	14400	484	137	58	57	83
23	665	7410	737	270	711	2370	7090	454	161	56	58	378
24	532	22900	624	290	643	1840	3510	627	170	52	56	3580
25	390	6630	550	399	586	1970	2410	681	158	47	54	1280
26	305	3040	498	679	538	2290	1810	498	139	47	53	790
27	247	2340	461	684	529	1790	1470	492	127	46	53	652
28	212	7350	434	680	519	2710	1260	718	116	45	52	541
29	185	5310	395	650	513	7950	1200	592	107	44	49	465
30	165	2850	351	635	---	4340	2930	539	97	41	46	402
31	148	---	324	620	---	3120	---	466	---	40	43	---
TOTAL	4616	90197	85166	12158	33984	97000	86758	51810	5937	3256	2231	10971
MEAN	149	3007	2747	392	1172	3129	2892	1671	198	105	72.0	366
MAX	665	22900	14000	684	5180	13900	14400	9050	405	375	268	3580
MIN	24	136	324	270	425	492	774	454	97	40	38	34

CAL YR 1983	TOTAL	627844	MEAN	1720	MAX	60600	MIN	17
WTR YR 1984	TOTAL	484084	MEAN	1323	MAX	22900	MIN	24

07039000 WAPPAPELLO LAKE AT WAPPAPELLO, MO

LOCATION.--Lat 36°55'42", long 90°17'04", in NW¼SE¼ sec.3, T.26 N., R.7 E., Wayne County, Hydrologic Unit 08020202, at intake tower at dam on St. Francis River 0.8 mi southwest of Wappapello, and at mile 309.

DRAINAGE AREA.--1,310 mi², approximately.

PERIOD OF RECORD.--April 1941 to current year.

GAGE.--Water-stage recorder. Datum of gage is 347.74 ft National Geodetic Vertical Datum of 1929. Prior to June 19, 1941, nonrecording gage at same site and datum.

REMARKS.--Lake is formed by earth-fill dam. Closure of channel at dam began July 10, 1940; river began to flow through outlet structure July 24, 1940. Stop logs placed in outlet structure and storage began Apr. 1. 1941; conservation pool level reached Apr. 20, 1941. Capacity at bottom of outlet tunnels (gage height, -9.0 ft), 2,600 acre-ft; at conservation pool level (gage height, 7.0 ft), 30,900 acre-ft; at spillway crest (gage height, 47.0 ft), 613,000 acre-ft; at maximum pool level (gage height, 62.4 ft), uncontrollable above spillway crest, 1,022,000 acre-ft. Figures given herein represent total contents. Under normal operating conditions lake surface will not be drawn below conservation pool level, which is maintained for purposes of conservation and recreation. Storage above this level used for flood control.

COOPERATION.--Records furnished by Corps of Engineers.

EXTREMES FOR PERIOD OF REOCRD.--Maximum contents, 729,800 acre-ft Apr. 16, 1945, gage height, 51.35 ft; minimum since initial filling to conservation pool level, 23,340 acre-ft Mar. 1, 2, 3, 1970; minimum gage height, 4.20 ft Sept. 26, 27, 1967.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 301,300 acre-ft Dec. 15, gage height, 31.13 ft; minimum 25,400 acre-ft Feb. 6, gage height, 5.47 ft.

Capacity table (gage height, in feet NGVD, and contents, in acre-feet)

6.0	27,100	22.0	166,200
7.0	30,900	27.0	235,200
10.0	48,000	33.0	332,900
13.0	71,400	38.0	422,800
17.0	109,600	43.0	522,900

RESERVOIR STORAGE (AC-FT), WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984
INSTANTANEOUS OBSERVATIONS AT 0800

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	60700	66100	200900	221800	30200	30100	70400	88600	65500	60100	60300	61200
2	60600	65800	199100	214900	28400	30100	68700	90000	63900	60000	60300	61100
3	60500	66200	200700	207800	27500	30100	68300	89700	63000	60000	60300	61600
4	61200	67500	211200	200000	26700	30200	64700	88900	62100	60200	60600	61500
5	62800	70100	230900	191600	25900	31200	73900	87400	61200	62100	60500	61200
6	62800	72300	242400	182900	25400	36500	76300	86300	60900	62600	60600	61200
7	62600	73500	246600	172700	25700	41000	76000	91200	60300	62700	60600	61100
8	62700	72700	248600	156400	26700	40700	73900	115500	60300	62800	60700	60900
9	62500	69700	247500	152800	27700	39100	73700	133200	60200	62600	61100	61800
10	62600	67200	245700	143500	28600	37700	76400	139900	60000	62200	61100	61900
11	62500	63700	248000	133400	29500	36100	78200	140600	59800	61700	61300	62700
12	63300	60300	272200	123300	30200	34200	77700	139200	59900	61000	61800	63100
13	63200	59700	286600	114800	35900	32900	77100	135700	60000	60600	62000	64200
14	63000	59700	301100	106400	48300	30700	75500	134100	60100	60300	62300	65200
15	62600	60800	301300	98700	53300	30000	73200	130700	60100	60100	62300	65800
16	62400	61200	301100	93300	51000	30400	70500	127200	60100	60000	62000	65800
17	62000	61600	299100	84400	49500	30700	67400	123300	60000	60000	61600	65800
18	61800	62100	296600	77300	47400	34700	64200	119100	60100	60300	61100	65800
19	61600	62400	293500	70200	45500	46700	61700	115000	60500	60200	61000	65500
20	61400	66500	288900	64200	43400	67800	59100	110300	61000	60200	60900	65900
21	61500	81700	284400	59100	40900	90200	58500	106300	61000	60200	60600	64300
22	63300	96100	281300	54300	38900	89800	62000	101800	60900	60300	61100	63300
23	64100	101800	275300	50300	37000	84500	87000	98300	60900	60300	61200	64500
24	65400	123700	270800	47100	35800	79600	91900	93700	61100	60300	61200	65000
25	66000	163600	264800	44500	31400	74000	92100	89200	60900	60200	61100	69400
26	66200	172700	259000	41800	32700	68400	90600	89200	60800	60300	61100	71500
27	66600	176700	253300	40100	32300	63100	82500	80600	60600	60500	61000	71200
28	66500	183700	248300	38200	31200	59100	85900	76800	60600	60500	61000	70600
29	66400	197500	242700	36500	30400	60200	84000	72500	59800	60500	61300	69300
30	66400	201500	236600	35700	---	68500	84400	69500	60200	60400	61300	67600
31	66200	---	229200	32300	---	70900	---	67500	---	60300	61300	---
WTR YR 1984												
(†)	360.40	372.68	374.60	355.28	354.87	360.94	362.41	360.55	359.66	359.67	359.80	360.56
(‡)	+3500	+135300	+27700	-196900	-1900	+40500	+13500	-16900	-7300	+100	+1000	+6300
MAX	66600	201500	301300	221800	53300	90200	92100	140600	65500	62800	62300	71500
MIN	60500	59700	199100	32300	25400	30000	58500	67500	59800	60000	60300	60900

CAL YR 1983.................(‡) -256200
WTR YR 1984.................(‡) +4900

(†) Elevation, in feet NGVD, at end of month.
(‡) Change in contents, in acre-feet.

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07039500 ST. FRANCIS RIVER AT WAPPAPELLO, MO

LOCATION.--Lat 36°55'41", long 90°15'55", in NW¼SE¼ sec.2, T.26 N., R.7 E., Wayne County, Hydrologic Unit 08020202, on right bank at downstream side of highway bridge, 0.5 mi southeast of Wappapello and 1.25 mi downstream from Wappapello Dam.

DRAINAGE AREA.--1,311 mi².

PERIOD OF RECORD.--October 1940 to current year. Since January 1939 in reports of Mississippi River Commission. Gage-height records collected in this vicinity since April 1920 are contained in reports of the Corps of Engineers.

REVISED RECORDS.--WSP 1211: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 325.15 ft National Geodetic Vertical Datum of 1929. Prior to Oct. 14, 1940, nonrecording gages in the vicinity at same datum. Datum of gage was published in error as 325.25 ft in water years 1982 and 1983.

REMARKS.--Records fair. Flow regulated by Wappapello Lake.

AVERAGE DISCHARGE.--44 years, 1,539 ft³/s, 1,115,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 22,300 ft³/s Apr. 16, 1945, gage height, 25.60 ft; no flow at times in some years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known since 1920, 30.7 ft May 15, 1933 discharge, 82,500 ft³/s, determined by Corps of Engineers. Maximum discharge, 85,000 ft³/s, determined by Corps of Engineers, Aug. 1915 (stage unknown).

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 6,650 ft³/s Mar. 23; minimum daily, 42 ft³/s Oct. 1-3.

DISCHARGE (CUBIC FEET/SECOND) WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	42	263	3180	4400	2360	930	3800	2520	1370	183	302	72
2	42	271	2970	4390	2100	860	3500	2470	1160	153	302	72
3	42	274	1950	4350	1710	840	3540	2460	910	91	302	72
4	44	285	1690	4710	1560	850	3500	2440	860	92	299	71
5	48	547	1600	5120	1460	1000	3500	2420	772	149	298	70
6	69	665	1610	5650	1090	1570	3500	2420	593	241	299	69
7	88	672	1890	6240	275	2180	3490	2100	448	323	299	70
8	104	1200	2790	6350	237	2780	3480	890	386	365	296	71
9	105	2150	2970	6300	240	2700	3500	743	374	490	296	75
10	105	2460	2710	6250	139	2500	3520	1840	382	502	295	71
11	108	2390	1540	6410	322	2440	3530	2890	347	503	292	88
12	137	2000	1210	6100	554	2420	3530	3080	191	458	289	122
13	194	752	1250	5760	980	2390	3520	3130	186	350	291	125
14	235	538	1900	5380	2100	2270	3500	3120	182	232	102	124
15	286	84	2950	5020	3260	1700	3460	3110	183	217	236	116
16	291	58	3140	4720	4440	1330	3420	3100	180	183	344	115
17	296	55	3180	4550	3770	1480	3350	3060	176	87	352	114
18	286	70	3180	4390	3290	1750	3050	3040	176	76	294	182
19	289	127	3270	3950	2960	2470	2740	3000	178	74	194	353
20	231	207	3450	3650	2780	3520	2370	3010	221	75	185	410
21	64	478	3500	3400	2650	5100	1630	2970	320	74	137	492
22	52	1360	3530	3000	2380	6590	1540	2830	329	74	83	500
23	46	2100	3540	2700	2070	6650	2010	2640	331	74	75	508
24	50	1220	3560	2510	1870	6200	3040	2890	329	74	72	508
25	242	980	3540	2350	1820	6080	3260	2920	325	74	71	515
26	258	950	3520	2160	1700	5850	3300	2880	323	73	71	590
27	264	980	3510	2100	1530	5720	3280	2850	323	72	74	850
28	268	1020	3430	2060	1460	5340	3150	2810	279	71	75	1010
29	267	1420	3450	2030	1260	5030	2890	2660	194	71	75	1260
30	267	2850	3820	2120	---	4630	2780	2080	184	71	74	1300
31	264	---	4350	2470	---	4230	---	1640	---	303	74	---
TOTAL	5084	28426	88180	130590	52367	99600	94680	80013	12212	5875	6448	9995
MEAN	164	948	2845	4213	1806	3213	3156	2581	407	190	208	333
MAX	296	2850	4350	6410	4440	6650	3800	3130	1370	503	352	1300
MIN	42	55	1210	2030	139	840	1540	743	176	71	71	69

CAL YR 1983	TOTAL	885518	MEAN	2426	MAX	10300	MIN	41
WTR YR 1984	TOTAL	613470	MEAN	1676	MAX	6650	MIN	42

07042500 LITTLE RIVER DITCH 251 NEAR LILBOURN, MO

LOCATION.--Lat 36°33'20", long 89°40'12", SW¼SE¼ sec.8, T.22 N., R.13 E., New Madrid County, Hydrologic Unit 08020204, on right bank 150 ft upstream from bridge on U.S. Highway 62, 3.7 mi southwest of Lilbourn, and 4.0 mi northwest of Marston.

DRAINAGE AREA.--235 mi².

PERIOD OF RECORD.--October 1945 to current year. Prior to January 1946 monthly discharge only, published in WSP 1311.

REVISED RECORDS.--WDR MO80-1: 1980, (M).

GAGE.--Water-stage recorder, nonrecording gage and crest-stage gage. Datum of gage is 263.46 ft National Geodetic Vertical Datum of 1929 (levels by Missouri State Highway Commission). Prior to Oct. 27, 1967, nonrecording gage at present site and datum.

REMARKS.--Records good. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--39 years, 325 ft³/s, 18.78 in/yr, 235,500 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,580 ft³/s Mar. 29, 1975, gage height, 14.17 ft; maximum gage height, 15.16 ft Feb. 15, 1950; minimum discharge, 29 ft³/s Sept. 20, 1954.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in June 1945 reached a stage of 15.6 ft from floodmark, discharge, 3,200 ft³/s.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,320 ft³/s May 8, gage height, 12.67 ft; minimum daily, 40 ft³/s Oct. 1-3.

DISCHARGE (CUBIC FEET/SECOND) WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	40	58	224	207	237	324	547	413	258	158	103	54
2	40	73	593	203	224	336	517	358	258	151	100	51
3	40	132	1070	201	255	351	1520	389	245	144	107	55
4	48	289	1260	221	230	555	1040	347	240	154	107	50
5	109	160	738	296	217	985	827	327	237	1010	109	49
6	76	96	2050	408	202	764	653	707	232	1380	98	51
7	53	81	1050	345	191	572	554	2540	229	702	91	48
8	48	75	524	261	186	488	510	4010	229	375	89	45
9	47	74	390	234	181	435	815	2280	223	258	91	58
10	48	102	340	354	184	411	598	910	218	213	85	57
11	50	92	868	251	254	396	503	650	207	193	82	55
12	60	80	978	207	633	383	476	549	213	192	78	65
13	66	78	677	195	1540	445	486	484	208	191	76	52
14	55	77	509	178	823	390	496	452	209	177	75	48
15	52	79	436	169	516	384	458	428	198	173	76	45
16	51	78	376	168	420	643	439	400	219	173	75	45
17	79	75	332	162	373	811	416	379	192	163	71	45
18	83	75	310	157	343	983	395	364	184	174	73	48
19	77	110	287	148	341	987	371	349	174	157	72	47
20	68	911	275	148	323	1220	353	345	175	146	72	48
21	64	424	265	143	314	910	389	340	226	140	67	48
22	72	211	255	139	306	671	570	334	330	133	66	48
23	69	2230	245	181	300	546	429	356	218	134	67	107
24	65	2500	235	705	296	523	384	329	201	129	62	189
25	62	1040	225	1100	293	534	356	309	185	127	58	105
26	61	454	220	753	281	489	337	302	176	127	55	85
27	61	324	215	481	298	473	330	312	171	125	55	77
28	59	392	210	335	315	647	314	313	163	122	56	66
29	59	329	210	294	313	1390	345	286	165	117	57	62
30	58	262	210	316	---	977	553	277	165	112	54	61
31	58	---	207	259	---	644	---	270	---	106	55	---
TOTAL	1878	10961	15784	9219	10389	19667	15981	20109	6348	7656	2382	1864
MEAN	60.6	365	509	297	358	634	533	649	212	247	76.8	62.1
MAX	109	2500	2050	1100	1540	1390	1520	4010	330	1380	109	189
MIN	40	58	207	139	181	324	314	270	163	106	54	45

CAL YR 1983 TOTAL 131236 MEAN 360 MAX 4960 MIN 35
WTR YR 1984 TOTAL 122238 MEAN 334 MAX 4010 MIN 40

07043500 LITTLE RIVER DITCH 1 NEAR MOREHOUSE, MO

LOCATION.--Lat 36°50'03", long 89°43'48", in SW¼SE¼ sec.2, T.25 N., R.12 E., Stoddard County, Hydrologic Unit 08020204, on downstream side of second pier right of left abutment of bridge on State Highway 114, 1.5 mi downstream from Little River ditch 39, and 2.0 mi west of Morehouse.

DRAINAGE AREA.--450 mi².

PERIOD OF RECORD.--October 1945 to current year. Prior to January 1946 monthly discharge only, published in WSP 1311.

GAGE.--Water-stage recorder. Datum of gage is 280.76 ft National Geodetic Vertical Datum of 1929. Prior to Nov. 17, 1949, June 11, 1951, to Feb. 22, 1962, nonrecording gage at same site and datum. Nov. 17, 1949 to June 10, 1951 nonrecording gage at site 50 ft downstream at present datum.

REMARKS.--Records good. Several observations of water temperature and specific conductance were made during the year. This Little River ditch 1 flows into Little River ditch 251 at point 35.3 mi downstream, and is independent of the ditch for which records are published as Little River ditch 1 near Kennett.

AVERAGE DISCHARGE.--39 years, 527 ft³/s, 15.90 in/yr, 381,800 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,070 ft³/s May 3, 1983, gage height, 17.29 ft; maximum gage height, 19.81 ft Mar. 11, 1964; minimum, 21 ft³/s Sept. 18, 1954.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 1945 reached a stage of 19.85 ft from floodmark, discharge 5,830 ft³/s.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 6,010 ft³/s Mar. 28, gage height, 12.78 ft; minimum, 37 ft³/s Oct. 1-3.

DISCHARGE (CUBIC FEET/SECOND) WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	38	70	631	195	365	414	1100	446	237	123	96	49
2	38	75	618	190	325	605	748	388	227	117	88	49
3	40	82	1370	190	323	866	1750	374	218	114	85	48
4	53	121	2710	208	346	1510	1760	373	216	143	126	47
5	70	119	1780	261	333	3100	1790	361	217	2200	161	47
6	57	106	1920	347	291	1690	1090	506	216	1780	90	46
7	45	102	1390	357	251	1080	746	3600	215	1760	79	47
8	43	99	913	333	224	750	594	4910	219	1120	75	49
9	42	96	635	311	214	563	615	2610	206	730	71	61
10	41	108	488	315	211	485	800	1540	204	485	67	54
11	46	117	2140	271	216	449	709	1120	204	345	68	85
12	56	110	2720	252	716	429	815	714	203	265	64	190
13	58	101	1440	226	3480	481	1930	512	202	215	63	162
14	53	98	1110	191	2310	504	1100	546	200	182	64	132
15	51	99	871	182	1470	489	793	465	199	175	61	97
16	49	94	610	176	1150	752	598	371	205	157	58	74
17	58	93	474	164	780	1730	507	326	197	158	56	63
18	129	95	394	154	545	2540	449	305	188	149	56	59
19	109	114	325	161	503	3600	410	291	178	136	58	56
20	80	1420	300	166	446	5300	383	309	174	124	56	53
21	73	1400	285	166	402	3210	381	310	169	118	54	52
22	186	732	265	160	363	1950	377	431	161	111	55	53
23	192	2980	250	154	340	1590	376	360	156	107	54	73
24	137	4400	235	526	321	1250	362	298	155	104	51	90
25	131	2480	225	1080	303	1030	344	293	150	100	50	82
26	117	1480	220	1070	286	791	331	269	147	97	50	116
27	101	1290	215	830	329	648	335	270	145	100	49	109
28	87	2510	210	650	334	3560	304	263	140	102	49	97
29	76	1430	205	530	345	4520	500	249	132	108	51	87
30	72	918	205	506	---	2140	559	242	128	119	52	79
31	70	---	200	432	---	1460	---	237	---	106	49	---
TOTAL	2398	22939	25354	10754	17522	49486	22556	22689	5608	11650	2106	2306
MEAN	77.4	765	818	347	604	1596	752	732	187	376	67.9	76.9
MAX	192	4400	2720	1080	3480	5300	1930	4910	237	2200	161	190
MIN	38	70	200	154	211	414	304	237	128	97	49	46

CAL YR 1983	TOTAL	240261	MEAN	658	MAX	9790	MIN	35
WTR YR 1984	TOTAL	195368	MEAN	534	MAX	5300	MIN	38

07046001 LITTLE RIVER DITCHES NEAR KENNETT, MO.

WATER-QUALITY RECORDS

LOCATION.--Lat 36°14'11", long 89°58'06", in NW¼ sec.3, T.18 N., R.10 E., Dunklin County, at bridges on State Highway 84, 4 mi east of Kennett.

PERIOD OF RECORD.--November 1969 to June 1970, August 1972 to September 1973, July 1977 to current year.

REMARKS.--Analyses represent a composite of water from five ditches.

WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	TIME	AGENCY ANALYZING SAMPLE (CODE NUMBER) (00028)	STREAMFLOW, INSTANTANEOUS (CFS) (00061)	SPECIFIC CONDUCTANCE (UMHOS) (00095)	PH (STANDARD UNITS) (00400)	TEMPERATURE (DEG C) (00010)	OXYGEN, DISSOLVED (MG/L) (00300)	OXYGEN, DISSOLVED (PERCENT SATURATION) (00301)	OXYGEN DEMAND, CHEMICAL (LOW LEVEL) (MG/L) (00335)	OXYGEN DEMAND, CHEMICAL (HIGH LEVEL) (MG/L) (00340)	COLIFORM, FECAL, 0.7 UM-MF (COLS./100 ML) (31625)
OCT											
05...	1230	29001	160	401	7.9	21.0	6.0	68	16	--	140
NOV											
08...	1315	29001	340	260	7.5	15.0	7.4	74	23	--	120
JAN											
04...	1000	29001	1460	230	6.5	5.0	8.6	69	16	--	110
25...	1430	29001	5420	105	6.9	2.0	9.0	65	33	--	250
FEB											
15...	1450	29001	4680	130	7.0	13.0	8.6	82	37	--	K300
MAR											
07...	1300	29001	3540	169	7.1	9.0	6.8	59	25	--	K190
APR											
05...	1300	29001	5940	132	7.5	12.0	6.8	61	30	--	880
MAY											
02...	1010	29001	1700	259	7.4	19.0	4.0	42	45	--	K600
JUN											
06...	1300	29001	350	380	7.9	25.5	4.4	52	18	--	K140
JUL											
18...	0830	80020	562	335	7.5	22.5	6.0	67	--	26	K200
AUG											
22...	1400	80020	182	400	7.9	26.0	7.8	93	--	<10	K200
SEP											
11...	1415	80020	265	326	8.1	25.5	10.6	126	--	50	K300

DATE	HARDNESS (MG/L AS CACO3) (00900)	HARDNESS, NONCARBONATE (MG/L CACO3) (00902)	CALCIUM DISSOLVED (MG/L AS CA) (00915)	MAGNESIUM, DISSOLVED (MG/L AS MG) (00925)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	POTASSIUM, DISSOLVED (MG/L AS K) (00935)	ALKALINITY FIELD (MG/L AS CACO3) (00410)	CARBON DIOXIDE DISSOLVED (MG/L AS CO2) (00405)	SULFATE DISSOLVED (MG/L AS SO4) (00945)	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)
OCT										
05...	190	0	51	15	15	2.1	200	4.9	20	14
NOV										
08...	--	--	--	--	--	--	98	6.0	--	--
JAN										
04...	--	--	--	--	--	--	88	54	--	--
25...	--	--	--	2.8	2.9	2.3	33	8.0	10	4.0
FEB										
15...	--	--	--	--	--	--	39	7.6	--	--
MAR										
07...	--	--	--	--	--	--	59	9.1	--	--
APR										
05...	50	15	13	4.2	3.5	2.5	35	2.1	12	6.0
MAY										
02...	--	--	--	--	--	--	91	7.0	--	--
JUN										
06...	--	--	--	--	--	--	147	3.6	--	--
JUL										
18...	160	21	45	12	11	2.7	141	8.6	17	11
AUG										
22...	--	--	--	--	--	--	162	3.9	--	--
SEP										
11...	--	--	--	--	--	--	128	2.0	--	--

K--Results based on colony count outside the acceptable range (non-ideal colony count).

07046001 LITTLE RIVER DITCHES NEAR KENNETT, MO--Continued

DATE	FLUORIDE, DISSOLVED (MG/L AS F) (00950)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L) (70300)	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MG/L) (00530)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITROGEN, AMMONIA TOTAL (MG/L AS N) (00610)	PHOSPHORUS, TOTAL (MG/L AS P) (00665)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD) (01027)	CADMIUM DISSOLVED (UG/L AS CD) (01025)	COPPER, TOTAL RECOVERABLE (UG/L AS CU) (01042)	COPPER, DISSOLVED (UG/L AS CU) (01040)
OCT										
05...	.20	250	45	<.05	.010	.200	<2	<2	5	<5
NOV										
08...	--	--	41	.25	.050	.210	--	--	--	--
JAN										
04...	--	--	27	.27	.200	.190	--	--	--	--
25...	.10	72	54	.53	.180	.370	<2	<2	5	<5
FEB										
15...	--	--	212	.56	.230	.370	--	--	--	--
MAR										
07...	--	--	94	.33	.170	.320	--	--	--	--
APR										
05...	.10	180	260	.42	.220	.390	<2	<2	14	<5
MAY										
02...	--	--	166	.33	.130	.370	--	--	--	--
JUN										
06...	--	--	79	.06	.010	.160	--	--	--	--
JUL										
18...	.20	206	22	.10	.030	.150	<1	<1	10	2
AUG										
22...	--	--	19	<.10	.020	.170	--	--	--	--
SEP										
11...	--	--	46	.10	.020	.170	--	--	--	--

DATE	IRON, TOTAL RECOVERABLE (UG/L AS FE) (01045)	IRON, DISSOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOVERABLE (UG/L AS PB) (01051)	LEAD, DISSOLVED (UG/L AS PB) (01049)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN) (01055)	MANGANESE, DISSOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOVERABLE (UG/L AS HG) (71900)	MERCURY DISSOLVED (UG/L AS HG) (71890)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN) (01092)	ZINC, DISSOLVED (UG/L AS ZN) (01090)
OCT										
05...	2400	<2	<5	<5	260	76	<.2	<.2	40	<10
NOV										
08...	--	--	--	--	--	--	--	--	--	--
JAN										
04...	--	--	--	--	--	--	--	--	--	--
25...	3800	970	10	6	110	100	<.2	<.2	40	21
FEB										
15...	--	--	--	--	--	--	--	--	--	--
MAR										
07...	--	--	--	--	--	--	--	--	--	--
APR										
05...	14000	380	12	<5	320	44	<.2	<.2	80	16
MAY										
02...	--	--	--	--	--	--	--	--	--	--
JUN										
06...	--	--	--	--	--	--	--	--	--	--
JUL										
18...	1600	12	1	5	240	140	<.1	<.1	20	24
AUG										
22...	--	--	--	--	--	--	--	--	--	--
SEP										
11...	--	--	--	--	--	--	--	--	--	--

07050580 JAMES RIVER NEAR STRAFFORD, MO

LOCATION.--Lat 37°12'11", long 93°04'47", in SW¼NW¼NW¼ sec.24, T.29 N., R.20 W., Greene County, Hydrologic Unit 11010002, on right bank 15 ft downstream from bridge on county road, 1.6 mi downstream from County Line Damsite, 1 mi downstream from Davis Creek and 4 mi south of Strafford.

DRAINAGE AREA.--165 mi².

PERIOD OF RECORD.--October 1973 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,207 ft National Geodetic Vertical Datum of 1929 (from Corps of Engineers river profile survey).

REMARKS.--Records poor. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--11 years, 159 ft³/s, 13.09 in/yr, 115,200 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 24,900 ft³/s Sept. 27, 1977, gage height, 18.90 ft; no flow several days in 1984, as a result of pumping upstream.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 3,000 ft³/s and maximum (*):

Date	Time	Discharge (ft³/s)	Gage height (ft)
Nov. 19	2115	3,050	9.61
Nov. 23	1115	4,390	11.11
Feb. 12	0415	4,140	10.81
Mar. 4	0830	6,200	12.86
Mar. 18	2315	*8,290	14.23
Apr. 21	--	unknown	unknown

No flow several days.

DISCHARGE (CUBIC FEET/SECOND) WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.0	35	169	63	76	253	355	125	70	15	3.2	.00
2	2.0	32	158	62	72	442	742	115	58	15	2.8	.00
3	2.0	85	327	62	66	793	1450	100	53	15	3.0	1.4
4	10	812	773	61	70	3490	725	95	51	18	4.1	1.4
5	25	458	540	75	66	1150	549	85	44	41	4.6	1.2
6	20	288	419	248	63	705	444	80	40	43	4.3	1.0
7	15	191	338	277	62	533	383	110	36	34	3.0	.49
8	10	145	281	272	62	430	592	200	33	38	2.4	.36
9	5.0	122	241	283	61	353	1240	150	30	29	2.0	3.0
10	5.0	131	210	440	61	295	710	130	28	23	1.6	6.1
11	5.0	140	263	343	76	249	543	110	28	20	1.3	4.7
12	9.7	135	346	277	2510	223	493	100	26	20	.97	4.1
13	8.5	120	317	229	841	226	432	95	24	20	1.1	3.0
14	7.4	101	302	190	567	197	367	90	22	18	.39	2.6
15	5.7	77	267	165	437	178	324	85	21	16	1.1	2.0
16	4.7	62	229	149	368	165	285	75	26	14	.98	1.8
17	428	56	200	130	310	668	250	70	26	13	.43	1.5
18	83	51	191	110	266	2780	216	65	24	12	.00	1.2
19	59	871	162	101	227	2970	188	60	58	11	.49	1.1
20	941	1150	150	76	197	1020	177	60	80	10	.74	.94
21	959	565	144	88	175	681	2500	100	38	9.2	.38	.57
22	480	412	122	86	156	527	1000	70	48	8.5	.37	.83
23	326	2620	106	84	140	436	550	62	28	8.0	.76	2.9
24	232	923	86	80	126	408	415	57	23	7.2	.21	2.9
25	169	573	83	80	113	418	325	54	20	6.8	.00	4.4
26	126	419	80	80	117	390	270	63	19	6.4	.00	5.7
27	85	345	76	85	196	394	220	91	18	6.0	.00	7.1
28	60	364	72	90	208	631	190	342	17	5.3	.00	8.5
29	53	281	70	100	219	613	165	209	16	4.6	.00	8.9
30	45	216	68	90	---	472	145	140	16	3.9	.00	8.1
31	39	---	64	80	---	400	---	101	---	3.7	.00	---
TOTAL	4222.0	11780	6854	4556	7908	22490	16245	3289	1021	494.6	40.22	87.79
MEAN	136	393	221	147	273	725	542	106	34.0	16.0	1.30	2.93
MAX	959	2620	773	440	2510	3490	2500	342	80	43	4.6	8.9
MIN	2.0	32	64	61	61	165	145	54	16	3.7	.00	.00

CAL YR 1983 TOTAL 67534.0 MEAN 185 MAX 6000 MIN 1.0
WTR YR 1984 TOTAL 78987.61 MEAN 216 MAX 3490 MIN .00

07050700 JAMES RIVER NEAR SPRINGFIELD, MO

LOCATION.--Lat 37°09'00", long 93°12'12", in SW¼SE¼SW¼ sec.2, T.28 N., R.21 W., Greene County, Hydrologic Unit 11010002, on right bank on county road at Kinser bridge, 1.1 mi downstream from Pearson Creek, and 2.5 mi southeast of Springfield.

DRAINAGE AREA.--246 mi².

PERIOD OF RECORD.--October 1955 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,143.27 ft National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers). Prior to Dec. 19, 1955, nonrecording gage at same site and datum.

REMARKS.--Records good. Flows are affected by pumping for Blackman Water Treatment Plant 1.0 mi upstream. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--29 years, 217 ft³/s, 11.98 in/yr, 157,200 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 24,800 ft³/s Dec. 17, 1957, gage height, 18.20 ft; minimum, 0.1 ft³/s Sept. 16, 24, 25, 1956.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in July 1909 reached a stage about 22 ft from information by local resident, discharge not determined.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 4,000 ft³/s and maximum (*):

Date	Time	Discharge (ft³/s)	Gage height (ft)
Nov. 23	1715	5,200	12.74
Feb. 12	1030	4,410	12.08
Mar. 4	1445	8,760	14.29
Mar. 19	0400	*10,300	14.74
Apr. 21	1345	7,090	13.74

Minimum discharge, 4.5 ft³/s Sept. 1,2.

DISCHARGE (CUBIC FEET/SECOND) WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12	62	300	72	103	330	452	225	94	29	9.1	4.5
2	11	58	268	67	100	466	526	202	76	28	8.4	5.0
3	11	78	306	68	100	854	1990	187	72	28	8.2	11
4	33	843	853	67	101	4690	1010	171	72	37	8.5	10
5	42	638	651	63	96	1710	737	153	67	42	8.3	8.0
6	38	435	510	175	89	988	595	150	64	58	9.4	7.0
7	33	327	421	268	92	735	512	180	59	53	9.5	6.7
8	28	247	353	296	98	597	628	283	55	55	9.0	7.5
9	25	192	301	297	95	507	1440	249	51	50	8.6	21
10	23	197	260	462	96	449	969	207	49	41	8.4	18
11	23	217	273	392	101	397	730	177	48	38	8.4	16
12	27	215	349	330	2410	359	643	157	46	35	8.3	15
13	25	196	339	271	1080	356	580	140	44	33	8.2	14
14	24	166	325	225	699	323	504	128	42	31	7.8	12
15	23	135	303	181	544	297	454	124	47	28	7.8	11
16	21	113	259	154	456	264	402	116	56	26	7.5	10
17	568	101	230	136	374	630	359	108	50	25	7.0	9.4
18	222	94	199	128	325	2040	314	102	45	22	7.3	9.5
19	123	375	170	120	281	5760	284	100	52	21	9.7	9.1
20	925	1730	158	110	232	1560	281	100	96	20	9.4	8.6
21	1160	711	147	100	195	1010	3830	118	69	18	8.5	8.2
22	638	504	135	94	173	762	1430	115	68	17	8.2	12
23	430	2790	123	88	154	620	893	102	58	16	7.6	23
24	322	1370	108	90	140	563	679	93	47	14	7.0	19
25	240	793	99	93	123	551	557	97	41	14	6.7	16
26	174	592	90	92	137	516	475	85	38	13	6.4	19
27	126	494	87	98	238	494	412	115	37	13	6.4	21
28	105	485	86	103	295	638	343	319	34	12	6.7	25
29	93	414	82	106	302	743	303	229	32	11	6.7	25
30	82	341	79	100	---	591	268	147	30	10	6.2	24
31	70	---	75	105	---	508	---	115	---	9.5	5.4	---
TOTAL	5677	14913	7939	4971	9229	30310	22600	4784	1639	847.5	244.6	405.5
MEAN	183	497	256	160	318	978	753	154	54.6	27.3	7.89	13.5
MAX	1160	2790	853	462	2410	5760	3830	319	96	58	9.7	25
MIN	11	58	75	67	89	264	268	85	30	9.5	5.4	4.5

CAL YR 1983	TOTAL	102421.8	MEAN	281	MAX	9250	MIN	7.0
WTR YR 1984	TOTAL	103559.6	MEAN	283	MAX	5760	MIN	4.5

07051600 JAMES RIVER NEAR WILSON CREEK, MO

WATER-QUALITY RECORDS

LOCATION.--Lat 37°04'35", long 93°22'15", in SW¼NW¼ sec.5, T.27 N., R.22 W., Christian County, Hydrologic Unit 11010002, at Nelson Mill Bridge on county road, 2.5 mi southeast of Wilson Creek, Mo., 2.0 mi upstream from Wilsons Creek.

PERIOD OF RECORD.--August 1967 to September 1982, November 1983 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS) (00061)	SPECIFIC CONDUCTANCE (UMHOS) (00095)	PH (STANDARD UNITS) (00400)	TEMPERATURE (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L) (00340)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./100 ML) (31625)	HARD-NESS (MG/L AS CACO3) (00900)
NOV										
09...	1500	245	319	7.9	15.0	7.4	74	22	420	160
DEC										
07...	1700	400	288	7.9	10.0	11.0	98	14	300	--
JAN										
04...	1700	107	355	8.2	8.5	13.0	111	<10	24	190
FEB										
08...	1000	135	350	8.0	5.5	12.8	101	<10	40	--
MAR										
06...	1645	1800	265	7.8	9.5	10.2	89	13	950	--
APR										
04...	0830	2000	228	7.8	10.5	10.4	94	25	1700	110
MAY										
09...	1630	250	310	8.2	19.0	12.5	135	<10	200	--
JUN										
07...	0730	120	336	7.7	21.5	6.4	73	25	96	--
JUL										
11...	0915	56	360	7.8	26.0	6.8	84	22	130	160
AUG										
07...	1545	21	520	7.8	26.0	8.8	109	28	280	--
SEP										
12...	0840	30	474	7.3	23.5	7.5	88	40	150	--

DATE	HARD-NESS, NONCAR-BONATE (MG/L CACO3) (00902)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ALKA-LINITY FIELD (MG/L AS CACO3) (00410)	CARBON DIOXIDE DIS-SOLVED (MG/L AS CO2) (00405)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)
NOV										
09...	24	51	7.8	4.1	2.9	136	3.3	15	9.0	<.10
DEC										
07...	--	--	--	--	--	127	3.1	--	--	--
JAN										
04...	46	65	7.3	5.1	2.0	147	1.8	23	11	<.10
FEB										
08...	--	--	--	--	--	141	2.7	--	--	--
MAR										
06...	--	--	--	--	--	106	3.2	--	--	--
APR										
04...	21	35	5.2	3.0	1.9	88	2.7	11	6.2	<.10
MAY										
09...	--	--	--	--	--	144	1.7	--	--	--
JUN										
07...	--	--	--	--	--	147	5.7	--	--	--
JUL										
11...	16	53	7.2	5.1	2.6	147	4.5	20	9.9	<.10
AUG										
07...	--	--	--	--	--	135	4.1	--	--	--
SEP										
12...	--	--	--	--	--	118	11	--	--	--

07051600 JAMES RIVER NEAR WILSON CREEK, MO--Continued

DATE	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L) (00530)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	PHOS-PHORUS, TOTAL (MG/L AS P) (00665)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD) (01027)	CADMIUM DIS-SOLVED (UG/L AS CD) (01025)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)
NOV										
09...	195	10	1.4	.040	.050	<1	<1	9	4	470
DEC										
07...	--	9	1.7	<.010	.040	--	--	--	--	--
JAN										
04...	215	2	1.8	<.010	.010	2	<1	4	2	160
FEB										
08...	--	<2	1.4	.010	<.010	--	--	--	--	--
MAR										
06...	--	28	1.9	.030	.050	--	--	--	--	--
APR										
04...	150	<2	1.2	.080	.070	<1	<1	8	5	770
MAY										
09...	--	13	1.1	.010	.030	--	--	--	--	--
JUN										
07...	--	25	1.0	.020	.040	--	--	--	--	--
JUL										
11...	203	28	2.1	.030	.050	<1	<1	7	3	580
AUG										
07...	--	21	.90	<.010	.030	--	--	--	--	--
SEP										
12...	--	14	1.3	.010	.050	--	--	--	--	--

DATE	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB) (01051)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG) (71900)	MERCURY DIS-SOLVED (UG/L AS HG) (71890)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN) (01092)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)
NOV									
09...	25	3	<1	60	14	<.1	<.1	80	5
DEC									
07...	--	--	--	--	--	--	--	--	--
JAN									
04...	110	2	<1	40	12	<.1	<.1	20	7
FEB									
08...	--	--	--	--	--	--	--	--	--
MAR									
06...	--	--	--	--	--	--	--	--	--
APR									
04...	68	5	1	70	18	.1	<.1	110	72
MAY									
09...	--	--	--	--	--	--	--	--	--
JUN									
07...	--	--	--	--	--	--	--	--	--
JUL									
11...	9	5	8	120	10	.1	<.1	<10	11
AUG									
07...	--	--	--	--	--	--	--	--	--
SEP									
12...	--	--	--	--	--	--	--	--	--

07052250 JAMES RIVER NEAR BOAZ, MO

WATER-QUALITY RECORDS

LOCATION.--Lat 37°00'25", long 93°21'50", in NE¼NE¼NW¼ sec.32, T.27 N., R.22 W., Christian County, Hydrologic Unit 11010002, at Frazier Bridge, 0.2 mi upstream from Turkey Hollow, 2.0 mi southeast of Boaz.

DRAINAGE AREA.--462 mi².

PERIOD OF RECORD.--August 1967 to September 1982, November 1983 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS) (00061)	SPE-CIFIC CON-DUCT-ANCE (UMHOS) (00095)	PH (STAND-ARD UNITS) (00400)	TEMPER-ATURE (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L) (00340)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./100 ML) (31625)	HARD-NESS (MG/L AS CACO3) (00900)
NOV 09...	1415	295	394	8.0	15.0	8.0	80	22	420	180
DEC 07...	1630	580	342	8.0	10.0	11.2	100	13	420	--
JAN 04...	1615	160	450	8.6	8.5	17.2	147	--	2	220
FEB 08...	0845	182	460	8.1	5.5	12.8	101	11	8	--
MAR 06...	1600	2400	305	7.8	9.5	10.4	91	18	700	--
APR 03...	1600	2300	281	7.9	12.5	10.0	95	18	7600	130
MAY 09...	1520	465	360	8.4	18.0	14.1	149	12	84	--
JUN 05...	1700	149	432	8.2	22.5	10.6	123	33	K48	--
JUL 11...	1115	121	480	7.9	25.5	6.2	76	29	210	190
AUG 09...	1100	64	682	7.8	26.0	5.3	65	<10	59	--
SEP 12...	1100	80	610	7.8	23.5	5.3	62	30	440	--

DATE	HARD-NESS, NONCAR-BONATE (MG/L CACO3) (00902)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ALKA-LINITY FIELD (MG/L AS CACO3) (00410)	CARBON DIOXIDE DIS-SOLVED (MG/L AS CO2) (00405)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)
NOV 09...	28	61	7.1	12	3.3	154	3.0	21	18	.10
DEC 07...	--	--	--	--	--	136	2.6	--	--	--
JAN 04...	62	78	6.6	17	2.9	160	.8	33	24	.20
FEB 08...	--	--	--	--	--	156	2.4	--	--	--
MAR 06...	--	--	--	--	--	118	3.6	--	--	--
APR 03...	13	43	5.8	4.2	2.1	118	2.9	10	5.6	<.10
MAY 09...	--	--	--	--	--	151	1.1	--	--	--
JUN 05...	--	--	--	--	--	159	1.9	--	--	--
JUL 11...	39	64	6.2	21	3.4	147	3.6	40	28	.20
AUG 09...	--	--	--	--	--	147	4.5	--	--	--
SEP 12...	--	--	--	--	--	122	3.7	--	--	--

K--Results based on colony count outside the acceptable range (non-ideal colony count).

07052250 JAMES RIVER NEAR BOAZ, MO--Continued

DATE	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L) (00530)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	PHOS-PHORUS, TOTAL (MG/L AS P) (00665)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD) (01027)	CADMIUM DIS-SOLVED (UG/L AS CD) (01025)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)
NOV										
09...	242	20	2.2	.040	.430	<1	1	7	4	560
DEC										
07...	--	5	2.2	<.010	.170	--	--	--	--	--
JAN										
04...	292	5	3.7	<.010	.700	2	<1	1	1	90
FEB										
08...	--	<2	2.8	<.010	.580	--	--	--	--	--
MAR										
06...	--	30	2.4	.050	.120	--	--	--	--	--
APR										
03...	166	73	1.5	.140	.160	<1	<1	10	2	1400
MAY										
09...	--	15	1.8	.010	.270	--	--	--	--	--
JUN										
05...	--	15	2.4	.010	.760	--	--	--	--	--
JUL										
11...	284	18	.40	.020	.710	<1	<1	11	3	360
AUG										
09...	--	18	4.3	.040	3.10	--	--	--	--	--
SEP										
12...	--	9	3.1	.030	1.60	--	--	--	--	--

DATE	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB) (01051)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG) (71900)	MERCURY DIS-SOLVED (UG/L AS HG) (71890)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN) (01092)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)
NOV									
09...	22	4	2	50	12	<.1	<.1	250	36
DEC									
07...	--	--	--	--	--	--	--	--	--
JAN									
04...	6	<1	<1	20	5	.1	.1	20	27
FEB									
08...	--	--	--	--	--	--	--	--	--
MAR									
06...	--	--	--	--	--	--	--	--	--
APR									
03...	35	<1	<1	140	15	<.1	<.1	40	67
MAY									
09...	--	--	--	--	--	--	--	--	--
JUN									
05...	--	--	--	--	--	--	--	--	--
JUL									
11...	5	9	5	70	10	.1	<.1	10	17
AUG									
09...	--	--	--	--	--	--	--	--	--
SEP									
12...	--	--	--	--	--	--	--	--	--

07052500 JAMES RIVER AT GALENA, MO

LOCATION.--Lat 36°48'19", long 93°27'41", in SW¼SE¼SW¼ sec.6, T.24 N., R.23 W., Stone County, Hydrologic Unit 11010002, on downstream side of right pier of first arch span from left end of bridge on State Highways 13 and 248 in Galena, 0.7 mi upstream from Railey Creek, and 42.3 mi above mouth.

DRAINAGE AREA.--987 mi².

PERIOD OF RECORD.--October 1921 to current year (October 1921, monthly discharge only published in WSP 1311).

REVISED RECORDS.--WSP 977: 1935(M), 1941(M).

GAGE.--Water-stage recorder. Datum of gage is 921.37 ft National Geodetic Vertical Datum of 1929. Prior to Dec. 11, 1927, nonrecording gage at site 500 ft downstream at datum 1.48 ft higher. Dec. 11, 1927 to July 22, 1939, nonrecording gage, and July 23, 1939 to Sept. 30, 1953, water-stage recorder at present site and at datum 2.00 ft higher.

REMARKS.--Records good. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--63 years, 944 ft³/s, 12.99 in/yr, 683,900 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 52,700 ft³/s May 20, 1943, gage height, 29.82 ft present datum; minimum, 10 ft³/s Sept. 20, 1954.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 12,000 ft³/s and maximum (*):

Date	Time	Discharge (ft³/s)	Gage height (ft)
Mar. 5	0830	16,400	13.87
Mar. 19	0915	*21,600	15.98

Minimum discharge, 105 ft³/s, Sept. 2.

DISCHARGE (CUBIC FEET/SECOND) WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	120	280	1020	300	478	1490	2180	1350	804	240	130	108
2	121	264	940	290	473	1610	2160	1270	725	227	132	109
3	120	255	921	290	473	2060	4610	1230	635	237	134	118
4	203	580	1240	300	463	9080	4770	1180	574	255	142	122
5	422	1360	1870	360	445	12600	3390	1110	554	261	147	125
6	398	1240	1630	582	426	5190	2770	1080	533	310	136	116
7	323	1010	1390	591	413	3650	2400	1100	508	520	139	109
8	261	841	1220	706	400	3010	2340	1140	474	782	139	119
9	216	722	1060	777	405	2600	3520	1200	442	465	151	131
10	207	693	973	969	411	2350	4270	1160	417	386	156	387
11	199	646	934	1070	422	2220	3350	1080	417	360	147	273
12	206	621	949	1070	1490	2140	2940	1000	393	348	144	173
13	241	602	1050	1000	4160	2130	2700	934	369	313	133	161
14	212	577	1070	915	2220	2090	2460	854	348	270	126	144
15	198	537	1030	831	1730	2050	2290	823	304	251	124	133
16	193	488	969	760	1450	1970	2140	797	315	239	123	127
17	183	432	889	710	1270	2150	2000	735	366	232	120	121
18	471	406	817	660	1120	4370	1880	687	332	218	120	117
19	492	474	767	620	1010	15800	1780	649	329	203	119	120
20	504	1820	700	590	917	11200	1770	653	365	198	142	115
21	1470	2320	650	560	836	5050	4440	636	517	192	139	112
22	1520	1560	590	520	769	3680	8220	622	468	182	131	125
23	1160	1850	550	490	713	2970	3950	658	407	173	126	179
24	907	5960	500	470	664	2610	3020	607	353	165	121	256
25	733	2580	450	450	594	2370	2500	558	321	163	117	219
26	594	1870	420	513	640	2200	2190	559	304	162	115	215
27	504	1540	390	492	1320	2110	1950	575	290	155	111	228
28	433	1360	360	513	1530	2150	1730	842	265	147	113	256
29	383	1280	340	508	1520	2620	1580	1080	260	140	114	238
30	352	1150	320	498	---	2630	1460	1090	249	132	112	209
31	307	---	310	492	---	2380	---	919	---	128	110	---
TOTAL	13653	35318	26319	18837	28762	120530	86760	28178	12638	8054	4013	4965
MEAN	440	1177	849	608	992	3888	2892	909	421	260	129	166
MAX	1520	5960	1870	1070	4160	15800	8220	1350	804	782	156	387
MIN	120	255	310	290	400	1490	1460	558	249	128	110	108

CAL YR 1983 TOTAL 365488 MEAN 1001 MAX 21100 MIN 120
WTR YR 1984 TOTAL 388027 MEAN 1060 MAX 15800 MIN 108

07053400 TABLE ROCK LAKE NEAR BRANSON, MO

LOCATION.--Lat 36°35'46", long 93°18'35", in NW¼ sec.22, T. 22N., R.22 W., Taney County, Hydrologic Unit 11010001, at dam on White River, 3 mi upstream from Fall Creek, and 6.1 mi southwest of Branson.

DRAINAGE AREA.--4,020 mi².

PERIOD OF RECORD.--September 1956 to current year.

GAGE.--Water-stage recorder. Datum of gage is at National Geodetic Vertical Dautm of 1929 (levels by Corps of Engineers). Prior to July 18, 1958, non-recording gage at same site and datum.

REMARKS.--Lake is formed by combination concrete-gravity and embankment type dam. Storage began on Sept. 9, 1956. Storage for purpose of filling to power pool level at elevation 881 ft and capacity 1,520,500 acre-ft began Nov. 24, 1958, and was reached Dec. 19, 1959. Capacity is 3,567,500 acre-ft at top of spillway gates, elevation 933 ft. Capacity is 3,462,000 acre-ft at top of flood control pool, elevation 931 ft. Capacity between elevations 915 ft and 931 ft is reserved for flood control, 760,000 acre-ft. Capacity between elevation 881 at the lowest outlet, elevation 721.96 ft, is 3,530 acre-ft. Lake is used for flood control, power, and recreational purposes. Figures represent total contents. Contents computed from daily readings at 2400 and prior to Oct. 1, 1963 to five significant figures.

COOPERATION.--Records furnished by the Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents 3,541,800 acre-ft May 10, 1961, elevation, 932.52 ft; minimum, since initial filling to bottom of power pool level, 1,535,500 acre-ft Feb. 8, 1965, elevation, 881.54 ft.

EXTREMES FOR CURRENT YEAR.--Maximum daily contents, 2,794,000 acre-ft June 5; minimum daily contents, 2,331,000 acre-ft Feb. 8.

Capacity table (elevation, in feet NGVD, and contents, in acre-ft)

905	2,297,000	915	2,702,000
910	2,493,000	919	2,878,000

RESERVOIR STORAGE (AC-FT), WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2497000	2562000	2539000	2335000	2331000	2439000	2727000	2721000	2787000	2707000	2583000	2423000
2	2496000	2564000	2528000	2336000	2335000	2453000	2742000	2721000	2789000	2707000	2572000	2425000
3	2499000	2564000	2515000	2336000	2336000	2470000	2755000	2736000	2792000	2710000	2566000	2425000
4	2508000	2568000	2501000	2337000	2337000	2544000	2763000	2739000	2794000	2710000	2563000	2424000
5	2508000	2570000	2499000	2339000	2338000	2600000	2749000	2742000	2794000	2711000	2559000	2423000
6	2509000	2573000	2494000	2341000	2334000	2623000	2732000	2751000	2790000	2710000	2550000	2423000
7	2509000	2573000	2488000	2343000	2332000	2638000	2732000	2759000	2782000	2715000	2541000	2423000
8	2510000	2573000	2481000	2345000	2331000	2644000	2745000	2764000	2767000	2715000	2535000	2425000
9	2510000	2576000	2475000	2349000	2332000	2461000	2758000	2752000	2750000	2712000	2525000	2426000
10	2510000	2569000	2481000	2351000	2334000	2646000	2758000	2749000	2742000	2708000	2520000	2420000
11	2516000	2569000	2486000	2342000	2340000	2653000	2749000	2746000	2731000	2708000	2521000	2419000
12	2514000	2568000	2483000	2340000	2351000	2660000	2736000	2746000	2724000	2712000	2521000	2414000
13	2513000	2568000	2485000	2343000	2369000	2641000	2724000	2745000	2721000	2714000	2511000	2415000
14	2513000	2568000	2481000	2345000	2377000	2662000	2721000	2745000	2720000	2717000	2504000	2417000
15	2512000	2565000	2475000	2348000	2385000	2667000	2714000	2745000	2720000	2718000	2494000	2416000
16	2511000	2563000	2477000	2347000	2389000	2666000	2708000	2746000	2719000	2720000	2486000	2415000
17	2523000	2555000	2478000	2346000	2391000	2648000	2700000	2747000	2718000	2724000	2477000	2415000
18	2528000	2548000	2476000	2344000	2395000	2718000	2699000	2747000	2714000	2721000	2469000	2415000
19	2541000	2552000	2467000	2341000	2397000	2764000	2695000	2749000	2711000	2710000	2469000	2414000
20	2542000	2554000	2451000	2333000	2400000	2783000	2691000	2763000	2710000	2699000	2464000	2415000
21	2550000	2551000	2440000	2332000	2401000	2776000	2706000	2763000	2709000	2685000	2455000	2416000
22	2554000	2547000	2430000	2333000	2402000	2752000	2731000	2763000	2702000	2675000	2445000	2420000
23	2555000	2551000	2410000	2335000	2403000	2745000	2739000	2761000	2702000	2663000	2447000	2419000
24	2556000	2571000	2392000	2335000	2402000	2744000	2735000	2762000	2703000	2654000	2448000	2418000
25	2559000	2579000	2374000	2335000	2401000	2759000	2730000	2755000	2702000	2643000	2449000	2421000
26	2560000	2585000	2358000	2335000	2411000	2729000	2724000	2757000	2699000	2632000	2450000	2419000
27	2561000	2590000	2357000	2334000	2420000	2720000	2725000	2767000	2699000	2621000	2443000	2421000
28	2561000	2580000	2351000	2336000	2425000	2732000	2722000	2773000	2705000	2623000	2435000	2421000
29	2561000	2564000	2342000	2338000	2433000	2742000	2720000	2777000	2707000	2622000	2429000	2417000
30	2561000	2552000	2333000	2332000	---	2746000	2716000	2779000	2707000	2612000	2426000	2413000
31	2561000	---	2333000	2332000	---	2745000	---	2781000	---	2597000	2427000	---
WTR YR 1984												
(†)	911.67	911.44	905.95	905.92	908.50	916.00	915.32	916.82	915.11	912.52	908.35	907.99
(‡)	+604000	-9000	-219000	-1000	+101000	+312000	-29000	+65000	-74000	-110000	-170000	-14000
MAX	2561000	2590000	2539000	2351000	2433000	2783000	2763000	2781000	2794000	2724000	2583000	2426000
MIN	2496000	2547000	2333000	2332000	2331000	2439000	2691000	2721000	2699000	2597000	2426000	2413000

CAL YR 1983..................(‡) -460000
WTR YR 1984..................(‡) -84000

(†) Elevation, in feet NGVD, at end of month.
(‡) Change in contents, in acre feet.

07053500 WHITE RIVER NEAR BRANSON, MO

LOCATION.--Lat 36°35'51", long 93°17'42", in SE¼NE¼ sec.22, T.22N., R.22 W., Taney County, Hydrologic Unit 11010003, on left bank 0.9 mi downstream from Table Rock Dam, 2.1 mi upstream from Fall Creek, 5 mi southwest of Branson, 7.4 mi upstream from Missouri Pacific bridge, and at mile 527.8.

DRAINAGE AREA.--4,022 mi^2.

PERIOD OF RECORD.--July 1909 to December 1910 (gage heights and discharge measurements only), October 1951 to current year.

GAGE.--Water-stage recorder. Datum of gage is 696.00 ft National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers). July 19, 1909 to Dec. 31, 1910, nonrecording gage at site 7.4 mi downstream at different datum. Oct. 1, 1951 to Mar. 6, 1952, nonrecording gage at same site and datum.

REMARKS.--Records good. Discharge computations based on power releases, conduit releases, fish hatchery releases, and pool elevation at Table Rock Lake. Fish hatchery releases began on Feb. 18, 1959. Regulated by Table Rock Lake since Sept. 9, 1956.

COOPERATION.--Records furnished by Corps of Engineers.

AVERAGE DISCHARGE.--33 years, 3,514 ft^3/s, 2,546,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 89,100 ft^3/s May 16, 1956, gage height, 36.9 ft; minimum, prior to building dam, 24 ft^3/s Sept. 20, 1954; no outlow from reservoir at various times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Apr. 16, 1945 reached a stage of 52.8 ft, from floodmark, discharge, 203,000 ft^3/s.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 15,500 ft^3/s Dec. 25; minimum daily, 40 ft^3/s many days.

DISCHARGE (CUBIC FEET/SECOND) WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	130	140	8470	40	670	1560	10700	780	3430	140	8000	2060
2	210	150	7900	40	40	660	8820	7850	570	180	5110	300
3	1610	150	10400	970	150	40	8900	5700	340	330	3380	250
4	350	160	9080	40	210	40	11000	9540	2090	710	2140	260
5	140	140	5070	40	40	3010	15100	1830	4110	170	3020	140
6	130	160	6760	40	2420	3850	15000	40	3710	1050	7200	390
7	130	1090	7020	40	1270	2750	7870	7120	6500	2470	6520	1430
8	220	610	6360	40	1070	4080	7560	8150	8760	2790	4930	460
9	110	810	3580	40	690	7020	9340	11700	9480	6210	5890	380
10	1950	2610	40	40	40	2830	12700	8630	5330	4690	2660	5220
11	220	150	40	5880	40	40	14500	7680	8570	640	970	3730
12	190	540	3900	2550	40	1550	15000	6110	5690	700	290	7010
13	300	250	2550	40	340	2120	10800	5930	4720	170	6350	2860
14	90	1460	6020	170	730	4620	9420	7990	2330	1240	3900	1340
15	160	1340	3550	40	610	1260	8700	8190	2220	220	6780	160
16	160	1170	1520	1120	1190	8950	9220	7060	1980	200	5240	140
17	330	3840	530	1930	1350	360	7940	6950	1410	140	4950	230
18	550	3640	3460	2310	1080	400	3840	7200	4410	1500	4840	440
19	1240	2140	9170	2060	490	6940	5170	6050	2310	6700	250	580
20	2250	890	10100	4180	630	12000	6040	240	3020	6470	4030	640
21	2490	4970	7690	1210	1010	14400	4730	5360	3710	7530	5360	550
22	450	5540	10600	40	940	15000	1020	4710	5940	5100	5040	150
23	40	5660	12600	390	1020	15000	8680	3740	260	7070	770	330
24	340	280	14900	880	1620	7880	8250	1270	210	6930	350	3780
25	160	740	15500	1170	960	7530	8290	6330	2600	8470	1130	1380
26	150	40	11300	1180	1770	10200	8340	130	2230	7360	240	390
27	160	2140	1960	1740	3140	11700	5120	140	470	5000	4750	270
28	150	9000	4680	40	2980	9360	5240	130	190	120	6460	150
29	150	8540	6620	40	2350	8060	5020	2070	490	570	6230	2460
30	160	7670	4350	3620	---	7710	4980	5690	130	5710	2490	1750
31	340	---	530	1060	---	10800	---	6440	---	7410	1240	---
TOTAL	15060	66020	196250	32980	28890	181720	257290	160750	97210	97990	120510	39230
MEAN	486	2201	6331	1064	996	5862	8576	5185	3246	3161	3887	1308
MAX	2490	9000	15500	5880	3140	15000	15100	11700	9480	8470	8000	7010
MIN	40	40	40	40	40	40	1020	40	130	120	240	140

CAL YR 1983 TOTAL 1600227 MEAN 4384 MAX 15500 MIN 40
WTR YR 1984 TOTAL 1293900 MEAN 3535 MAX 15500 MIN 40

07053700 LAKE TANEYCOMO AT BRANSON, MO.

WATER-QUALITY RECORDS

LOCATION.--Lat 36°38'09", long 93°12'52" in SE¼NW¼ sec.4, T.22 N., R.21 W., Taney County, Hydrologic Unit 11010003, 1000 ft downstream from Turkey Creek, at bridge on Business Route 65 in Branson.

PERIOD OF RECORD.--July 1977 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	TIME	AGENCY COL-LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA-LYZING SAMPLE (CODE NUMBER) (00028)	SPE-CIFIC CON-DUCT-ANCE (UMHOS) (00095)	PH (STAND-ARD UNITS) (00400)	TEMPER-ATURE (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	OXYGEN DEMAND, CHEM-ICAL (LOW LEVEL) (MG/L) (00335)	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L) (00340)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./100 ML) (31625)
OCT											
18...	1700	1028	29001	221	7.6	12.5	6.4	59	8	--	27
NOV											
09...	0900	1028	29001	.235	7.3	13.0	7.2	68	11	--	7
DEC											
07...	1100	80513	80010	219	8.0	11.0	8.1	74	--	--	--
07...	1110	80513	80010	220	8.1	11.0	7.8	71	--	--	--
07...	1415	1028	29001	208	7.6	12.0	9.6	88	<5	--	<1
JAN											
04...	1330	1028	29001	229	8.5	11.5	13.4	121	<5	--	21
FEB											
07...	1430	1028	29001	208	8.5	8.0	15.0	124	7	--	<1
MAR											
06...	1315	1028	29001	219	8.0	7.0	12.4	101	7	--	K2
APR											
03...	1300	1028	29001	221	8.0	7.5	11.8	99	5	--	K2
MAY											
09...	1300	1028	29001	226	7.9	10.0	10.8	94	50	--	K4
22...	1335	80513	80010	220	8.0	7.5	10.1	86	--	--	--
22...	1340	80513	80010	220	8.1	7.0	10.8	90	--	--	--
JUN											
06...	1230	1028	29001	250	7.7	11.0	9.2	83	7	--	K12
JUL											
12...	0800	1028	80020	266	7.5	11.5	9.2	83	--	22	270
AUG											
07...	0730	1028	80020	258	7.4	13.0	5.6	52	--	14	220
15...	0755	80513	80010	250	8.1	10.5	4.6	42	--	--	--
15...	0800	80513	80010	250	7.5	10.0	4.4	40	--	--	--
SEP											
12...	1720	1028	80020	246	7.4	14.5	4.6	44	--	20	96

DATE	HARD-NESS (MG/L AS CACO3) (00900)	HARD-NESS, NONCAR-BONATE (MG/L CACO3) (00902)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ALKA-LINITY FIELD (MG/L AS CACO3) (00410)	CARBON DIOXIDE DIS-SOLVED (MG/L AS CO2) (00405)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)
OCT											
18...	110	6	36	6.0	2.9	1.7	109	5.3	<10	6.0	.10
NOV											
09...	--	--	--	--	--	--	106	10	--	--	--
DEC											
07...	95	0	29	5.6	--	--	100	1.9	7.0	7.4	--
07...	100	3	32	5.6	--	--	100	1.5	7.0	5.4	--
07...	--	--	--	--	--	--	90	4.4	--	--	--
JAN											
04...	110	0	29	9.2	3.4	1.7	121	.7	15	5.0	.10
FEB											
07...	--	--	--	--	--	--	103	.6	--	--	--
MAR											
06...	--	--	--	--	--	--	91	1.8	--	--	--
APR											
03...	110	13	32	6.6	3.4	1.7	94	1.8	12	5.0	.10
MAY											
09...	--	--	--	--	--	--	104	2.5	--	--	--
22...	120	--	--	--	--	--	110	2.1	--	--	--
22...	120	--	--	--	--	--	110	1.7	--	--	--
JUN											
06...	--	--	--	--	--	--	107	4.1	--	--	--
JUL											
12...	130	12	42	7.3	3.5	1.6	123	7.5	9.5	6.1	<.10
AUG											
07...	--	--	--	--	--	--	106	8.2	--	--	--
15...	130	--	--	--	--	--	107	1.6	--	--	--
15...	130	--	--	--	--	--	100	6.1	--	--	--
SEP											
12...	--	--	--	--	--	--	91	7.0	--	--	--

K--Results based on colony count outside the acceptable range (non-ideal colony count).

07053700 LAKE TANEYCOMO AT BRANSON, MO--Continued

DATE	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L) (00530)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	PHOS-PHORUS, TOTAL (MG/L AS P) (00665)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD) (01027)	CADMIUM DIS-SOLVED (UG/L AS CD) (01025)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)
OCT										
18...	130	<1	.57	.110	--	<.050	<2	<2	<5	<5
NOV										
09...	--	5	.55	.110	--	<.050	--	--	--	--
DEC										
07...	--	--	.20	.090	.20	.030	--	--	--	--
07...	--	--	.20	.180	.10	.020	--	--	--	--
07...	--	8	.21	.110	--	<.050	--	--	--	--
JAN										
04...	142	2	.37	.080	--	.050	<2	<2	<5	<5
FEB										
07...	--	3	.25	<.010	--	<.050	--	--	--	--
MAR										
06...	--	1	.30	.080	--	.090	--	--	--	--
APR										
03...	140	2	.39	.010	--	<.050	<2	<2	<5	<5
MAY										
09...	--	2	.47	.010	--	<.050	--	--	--	--
22...	--	--	.70	.030	<.10	.020	--	--	--	--
22...	--	--	.70	.020	.20	.020	--	--	--	--
JUN										
06...	--	3	.20	.010	--	<.050	--	--	--	--
JUL										
12...	143	<2	.50	.030	--	.030	<1	<1	8	<1
AUG										
07...	--	3	.80	.030	--	<.010	--	--	--	--
15...	--	--	.80	--	--	<.010	--	--	--	--
15...	--	--	.80	--	--	<.010	--	--	--	--
SEP										
12...	--	6	.70	.030	--	.020	--	--	--	--

DATE	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB) (01051)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG) (71900)	MERCURY DIS-SOLVED (UG/L AS HG) (71890)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN) (01092)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)
OCT										
18...	80	<20	<5	<5	160	120	<.2	<.2	<10	<10
NOV										
09...	--	--	--	--	--	--	--	--	--	--
DEC										
07...	190	--	--	--	230	--	--	--	--	--
07...	230	--	--	--	230	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--	--
JAN										
04...	50	<20	<5	<5	30	<20	<.2	<.2	<10	<10
FEB										
07...	--	--	--	--	--	--	--	--	--	--
MAR										
06...	--	--	--	--	--	--	--	--	--	--
APR										
03...	40	<20	<5	<5	22	<20	<.2	<.2	10	<10
MAY										
09...	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--
JUN										
06...	--	--	--	--	--	--	--	--	--	--
JUL										
12...	30	4	3	7	20	10	.1	<.1	<10	6
AUG										
07...	--	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--	--
SEP										
12...	--	--	--	--	--	--	--	--	--	--

07057500 NORTH FORK RIVER NEAR TECUMSEH, MO

LOCATION.--Lat 36°37'22", long 92°14'53", in NE¼SE¼ sec.35, T.23 N., R.12 W., Ozark County, Hydrologic Unit 11010006, on right bank 3.2 mi downstream from Spring Creek, and 3.5 mi northeast of Tecumseh.

DRAINAGE AREA.--561 mi^2.

PERIOD OF RECORD.--October 1944 to current year.

GAGE.--Water-stage recorder. Datum of gage is 584.67 ft National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers). Prior to May 12, 1945, nonrecording gage at same site and datum 0.22 ft lower.

REMARKS.--Records good. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--40 years, 710 ft^3/s, 17.19 in/yr, 514,400 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 37,900 ft^3/s Apr. 22, 1974, gage height, 22.15 ft; minimum, 187 ft^3/s Sept. 14-18, 1954.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 6,500 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 24	0100	6,890	7.75
Mar. 19	1115	*9,010	8.98

Minimum daily discharge, 328 ft^3/s Oct. 2 and 3.

DISCHARGE (CUBIC FEET/SECOND) WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	329	370	1290	591	515	750	1320	1080	718	433	466	354
2	328	376	1250	578	517	791	1300	1050	696	433	406	354
3	328	403	1490	572	529	859	1580	1050	677	432	403	371
4	488	2900	2570	572	527	1190	1810	1030	663	452	400	361
5	609	1840	2150	566	523	2330	1670	991	650	464	402	357
6	514	1130	1770	566	514	2000	1530	1150	637	456	403	353
7	446	886	1500	560	502	1650	1420	1500	622	443	397	351
8	410	765	1340	548	493	1420	1420	2240	613	444	396	353
9	392	706	1230	545	494	1230	1710	1870	593	436	400	431
10	376	675	1160	540	506	1110	1990	1620	579	429	447	418
11	370	642	1340	540	615	1050	1840	1450	565	435	400	396
12	398	612	1610	533	1969	1020	1720	1310	549	426	390	380
13	392	587	1500	528	2470	1000	1610	1180	542	420	385	374
14	382	566	1420	516	1670	970	1500	1090	527	420	379	369
15	370	550	1310	508	1350	949	1420	1020	537	415	375	361
16	354	528	1180	507	1180	967	1340	965	690	412	378	356
17	354	510	1060	503	1060	1500	1270	922	589	423	375	354
18	354	500	974	497	972	2300	1200	879	570	410	379	356
19	360	932	911	485	919	5230	1150	859	553	402	389	354
20	376	2450	858	478	849	2950	1130	854	568	406	396	354
21	422	1580	799	468	805	2190	1780	847	529	405	383	354
22	508	1180	779	481	781	1790	2910	831	507	399	379	458
23	514	3550	735	498	762	1520	2300	795	492	400	374	534
24	470	3520	677	512	742	1540	1940	783	474	396	369	496
25	440	1920	650	533	713	1800	1710	758	461	400	369	463
26	416	1500	657	552	702	1730	1550	756	449	411	368	519
27	398	1490	657	557	759	1660	1430	763	448	410	365	518
28	392	2190	657	555	770	1620	1300	837	459	403	364	448
29	387	1840	631	549	748	1640	1210	880	454	402	369	415
30	376	1510	598	540	---	1510	1170	785	442	397	363	394
31	370	---	591	524	---	1400	---	744	---	398	358	---
TOTAL	12623	38208	35344	16508	24949	49666	47239	32889	16853	13012	11967	11956
MEAN	407	1274	1140	533	860	1602	1574	1061	562	420	386	399
MAX	609	3550	2570	591	2470	5230	2910	2240	718	464	447	534
MIN	328	370	591	468	493	750	1130	744	442	396	358	351

CAL YR 1983	TOTAL	304648	MEAN	835	MAX	11600	MIN	328
WTR YR 1984	TOTAL	311205	MEAN	850	MAX	5230	MIN	328

07057500 NORTH FORK RIVER NEAR TECUMSEH, MO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--July 1969 to June 1972, October 1978 to September 1979, November 1983 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS) (00061)	SPE-CIFIC CON-DUCT-ANCE (UMHOS) (00095)	PH (STAND-ARD UNITS) (00400)	TEMPER-ATURE (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L) (00340)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./100 ML) (31625)	HARD-NESS (MG/L AS CACO3) (00900)
NOV										
09...	1130	691	338	8.1	14.5	9.6	93	<10	230	190
DEC										
07...	1020	1400	250	7.6	9.5	10.6	91	11	110	--
JAN										
04...	1030	566	327	8.1	8.5	12.4	104	--	4	190
FEB										
07...	1200	501	359	8.3	8.0	14.4	118	17	3	--
MAR										
06...	1015	2030	274	8.0	9.5	12.0	103	17	30	--
APR										
03...	1000	1480	280	7.9	12.0	10.8	100	10	26	150
MAY										
09...	0945	1890	285	7.9	12.5	11.2	103	<10	240	--
JUN										
06...	1015	637	355	8.0	18.0	9.2	96	28	59	--
JUL										
11...	1600	434	382	8.3	21.0	9.8	108	23	29	210
AUG										
07...	1100	398	390	8.0	20.5	8.7	95	15	11	--
SEP										
12...	1415	381	389	8.1	22.5	9.9	112	40	84	--

DATE	HARD-NESS, NONCAR-BONATE (MG/L CACO3) (00902)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ALKA-LINITY FIELD (MG/L AS CACO3) (00410)	CARBON DIOXIDE DIS-SOLVED (MG/L AS CO2) (00405)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)
NOV										
09...	10	40	22	1.7	1.5	181	2.8	--	3.2	<.10
DEC										
07...	--	--	--	--	--	127	6.2	--	--	--
JAN										
04...	5	38	22	1.7	1.3	181	2.8	5.6	3.6	<.10
FEB										
07...	--	--	--	--	--	191	1.8	--	--	--
MAR										
06...	--	--	--	--	--	132	2.5	--	--	--
APR										
03...	14	30	18	1.4	1.3	135	3.3	4.5	3.0	.10
MAY										
09...	--	--	--	--	--	147	3.6	--	--	--
JUN										
06...	--	--	--	--	--	176	3.4	--	--	--
JUL										
11...	17	46	24	1.7	1.3	197	1.9	4.9	3.2	<.10
AUG										
07...	--	--	--	--	--	194	3.7	--	--	--
SEP										
12...	--	--	--	--	--	196	3.0	--	--	--

07057500 NORTH FORK RIVER NEAR TECUMSEH, MO--Continued

DATE	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L) (00530)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	PHOS-PHORUS, TOTAL (MG/L AS P) (00665)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD) (01027)	CADMIUM DIS-SOLVED (UG/L AS CD) (01025)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)
NOV 09...	187	3	1.0	.020	.010	<1	1	4	3	270
DEC 07...	--	1	1.0	<.010	.030	--	--	--	--	--
JAN 04...	182	5	1.0	<.010	.010	2	<1	2	1	30
FEB 07...	--	<2	.80	<.010	<.010	--	--	--	--	--
MAR 06...	--	4	.60	<.010	.020	--	--	--	--	--
APR 03...	172	7	.70	.060	.010	<1	<1	5	1	40
MAY 09...	--	6	.50	.010	.020	--	--	--	--	--
JUN 06...	--	<2	.70	.010	.010	--	--	--	--	--
JUL 11...	206	3	.60	.030	.010	<1	<1	4	1	40
AUG 07...	--	5	.50	.020	<.010	--	--	--	--	--
SEP 12...	--	4	.40	.040	.010	--	--	--	--	--

DATE	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB) (01051)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG) (71900)	MERCURY DIS-SOLVED (UG/L AS HG) (71890)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN) (01092)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)
NOV 09...	16	4	1	20	4	.1	.1	40	14
DEC 07...	--	--	--	--	--	--	--	--	--
JAN 04...	4	4	<1	20	4	<.1	<.1	30	14
FEB 07...	--	--	--	--	--	--	--	--	--
MAR 06...	--	--	--	--	--	--	--	--	--
APR 03...	9	3	1	20	3	.1	<.1	90	22
MAY 09...	--	--	--	--	--	--	--	--	--
JUN 06...	--	--	--	--	--	--	--	--	--
JUL 11...	4	<1	11	<10	2	.1	<.1	40	36
AUG 07...	--	--	--	--	--	--	--	--	--
SEP 12...	--	--	--	--	--	--	--	--	--

07058000 BRYANT CREEK NEAR TECUMSEH, MO

LOCATION.--Lat 36°37'33", long 92°18'16", in E½ sec.32, T.23 N., R.12 W., Ozark County, Hyrdrologic Unit 11010006, on left bank 0.8 mi downstream from Pine Creek, 3 mi northwest of Tecumseh, and 5 mi upstream from mouth.

DRAINAGE AREA.--570 mi².

PERIOD OF RECORD.--October 1944 to current year.

REVISED RECORDS.--WSP 1117: Drainage area. WSP 1441: 1945, 1946-47(M), 1950. WSP 1731: 1945-47, 1950.

GAGE.--Water-stage recorder. Datum of gage is 573.15 ft National Geodetic Vertical Datum of 1929. (levels by Corps of Engineers). Prior to July 30, 1945, nonrecording gage at same site and datum.

REMARKS.--Records good. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--40 years, 513 ft³/s, 12.22 in/yr, 371,700 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 71,100 ft³/s Dec. 3, 1982 gage height, 26.74 ft; minimum, 96 ft³/s Sept. 16, 17, 1954.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 6,000 ft³/s and maximum (*):

Date	Time	Discharge (ft³/s)	Gage height (ft)
Nov. 24	0015	*12,400	13.71
Mar. 19	1245	9,300	12.16

Minimum daily discharge, 150 ft³/s Oct. 1-3.

DISCHARGE (CUBIC FEET/SECOND) WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	150	200	886	313	252	498	1040	721	425	252	203	177
2	150	200	854	310	253	531	1060	691	408	249	311	175
3	150	224	1040	307	256	555	1740	686	397	245	234	180
4	269	730	1480	306	248	1280	1780	652	388	259	214	180
5	264	764	1390	312	249	1980	1520	613	376	281	208	178
6	217	503	1170	316	245	1480	1310	1190	392	281	203	176
7	190	405	986	315	245	1190	1180	1210	380	262	198	174
8	180	352	855	307	240	1020	1300	1850	376	259	195	174
9	175	329	748	301	236	840	2020	1330	359	252	200	213
10	170	326	678	301	239	759	1950	1130	348	244	203	209
11	170	312	825	291	272	671	1690	1020	339	238	199	196
12	219	296	1000	284	3220	666	1560	915	324	234	196	188
13	220	286	931	278	2200	671	1370	816	317	230	192	182
14	202	278	884	271	1380	622	1230	727	308	227	190	180
15	185	267	799	266	1070	595	1130	677	300	224	186	178
16	175	[illegible]	694	262	921	575	1060	638	322	224	187	176
17	170	249	607	260	776	1070	1000	601	298	228	185	175
18	170	244	552	257	671	1510	908	575	307	221	186	175
19	170	736	514	262	601	6370	853	550	374	216	193	175
20	190	1590	485	258	540	3090	823	545	351	215	196	175
21	254	1030	468	264	498	2130	1680	685	319	212	191	175
22	262	737	448	272	472	1740	2140	578	303	210	188	215
23	248	3580	419	276	450	1410	1680	510	294	206	186	234
24	247	4780	424	283	427	1340	1410	464	282	203	182	202
25	236	1660	452	279	405	1320	1240	450	270	211	180	388
26	222	1160	449	270	405	1230	1130	464	265	216	180	332
27	217	1300	372	272	494	1170	1040	468	256	207	180	247
28	210	1820	357	271	507	1220	934	548	255	206	180	220
29	206	1340	338	272	489	1310	863	508	263	204	183	207
30	200	1080	323	264	---	1150	805	459	257	201	180	198
31	200	---	325	254	---	1080	---	434	---	199	180	---
TOTAL	6288	27038	21753	8754	18261	41073	39446	22705	9853	7116	6089	6054
MEAN	203	901	702	282	630	1325	1315	732	328	230	196	202
MAX	269	4780	1480	316	3220	6370	2140	1850	425	281	311	388
MIN	150	200	323	254	236	498	805	434	255	199	180	174

CAL YR 1983 TOTAL 202686 MEAN 555 MAX 10000 MIN 150
WTR YR 1984 TOTAL 214430 MEAN 586 MAX 6370 MIN 150

BEST COPY AVAILABLE

07061300 EAST FORK BLACK RIVER AT LESTERVILLE, MO

LOCATION.--Lat 37°27'03", long 90°49'38", in NE¼SE¼ sec. 16, T.32 N., R.2 E., Reynolds County, Hydrologic Unit 11010007, at bridge on State Highway 21 at Lesterville, and 0.8 mi upstream from Black River.

DRAINAGE AREA.--94.5 mi².

PERIOD OF RECORD.--January 1960 to current year.

GAGE.--Water-stage recorder. Datum of gage is 655.34 ft National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. Several observations of water temperature and specific conductance were made during the year. Low flow regulated by Union Electric Company Taum Sauk pumped-storage power plant lower reservoir, 4 mi upstream, since Feb. 19, 1963, capacity 6,350 acre-ft.

AVERAGE DISCHARGE.--24 years, 109 ft³/s, 79,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,400 ft³/s Nov. 2, 1972, gage height, 11.13 ft; no flow at times during 1963, 1964, 1971, 1983, and 1984.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of March 1935 reached a stage of about 13.8 ft from information by local resident.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,150 ft³/s Nov. 20, gage height, 7.34 ft; no flow Oct. 3.

DISCHARGE (CUBIC FEET/SECOND) WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.06	3.9	167	9.5	49	17	179	141	31	3.5	1.5	2.8
2	.02	13	148	9.0	67	37	159	53	9.4	3.5	.88	2.3
3	.00	227	299	10	55	94	402	111	10	5.3	1.9	2.6
4	.69	393	1460	29	31	588	672	115	29	7.0	2.5	2.4
5	1.6	47	800	26	77	633	390	76	9.9	11	2.3	2.3
6	1.8	43	388	23	45	263	215	123	13	28	2.6	2.2
7	1.9	105	259	21	57	190	179	415	16	9.9	3.7	2.1
8	1.8	188	247	20	26	114	273	575	12	41	3.1	1.9
9	1.9	146	147	76	26	137	588	320	9.0	3.8	4.5	2.6
10	2.3	38	111	23	21	102	293	162	5.9	1.4	3.7	2.2
11	3.1	23	1500	34	158	135	210	181	12	3.2	4.2	4.8
12	4.4	49	800	38	370	80	187	27	21	4.7	3.4	11
13	4.6	104	410	34	916	172	202	100	7.0	2.1	3.1	11
14	4.4	13	145	31	309	81	178	51	16	1.2	3.0	9.9
15	4.3	7.5	87	32	200	125	107	91	31	.92	2.8	19
16	4.2	34	31	22	126	204	118	99	10	.82	3.2	21
17	4.1	14	18	27	103	597	116	64	5.8	.75	4.2	16
18	4.2	6.3	10	29	21	324	117	28	4.6	.90	3.5	8.6
19	4.2	486	11	35	105	2300	106	23	4.3	1.2	3.0	8.2
20	11	2960	19	30	148	550	114	10	4.1	1.7	2.9	8.4
21	146	1350	35	26	120	323	1200	113	3.9	2.0	2.8	6.7
22	544	220	24	24	49	182	1240	13	4.1	2.7	4.1	21
23	40	531	21	16	52	158	337	24	97	2.3	3.8	320
24	20	644	18	10	47	104	303	29	13	2.2	3.2	93
25	5.3	644	20	151	53	246	198	9.3	5.7	3.6	2.9	19
26	3.7	494	18	51	94	151	149	17	4.5	5.0	2.7	176
27	3.5	436	16	30	20	155	131	39	4.1	25	2.6	42
28	3.4	630	14	93	38	176	205	70	3.7	3.4	2.8	48
29	3.2	540	12	82	70	430	116	22	3.4	2.3	3.1	47
30	3.7	244	11	60	---	196	46	33	3.3	1.9	3.4	47
31	3.9	---	10	41	---	94	---	36	---	1.8	3.2	---
TOTAL	837.27	10683.7	7196	1142.5	3447	8958	8730	3170.3	403.7	184.09	94.58	961.0
MEAN	27.0	356	232	36.9	119	289	291	102	13.5	5.94	3.05	32.0
MAX	544	2960	1500	151	916	2300	1240	575	97	41	4.5	320
MIN	.00	3.9	10	9.0	20	17	46	9.3	3.3	.75	.88	1.9

CAL YR 1983 TOTAL 54643.24 MEAN 150 MAX 4650 MIN .00
WTR YR 1984 TOTAL 45808.14 MEAN 125 MAX 2960 MIN .00

07061500 BLACK RIVER NEAR ANNAPOLIS, MO

LOCATION.--Lat 37°20'10", long 90°47'19", in SW¼NW¼ sec.25, T.31 N., R.2 E., Reynolds County, Hydrologic Unit 11010007, on right bank 0.4 mi downstream from Mayberry Branch, 7 mi southwest of Annapolis, 11 mi downstream from East Fork, and at mile 278.5.

DRAINAGE AREA.--484 mi².

PERIOD OF RECORD.--April 1939 to current year.

GAGE.--Water-stage recorder. Datum of gage is 569.72 ft National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers). Prior to Aug. 21, 1942, at site 415 ft upstream at same datum.

REMARKS.--Records good. Several observations of water temperature and specific conductance were made during the year. Small regulation from upstream reservoir since Feb. 1963.

AVERAGE DISCHARGE.--45 years, 571 ft³/s, 16.02 in/yr, 413,700 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 49,700 ft³/s Nov. 2, 1972, gage height, 21.55 ft; minimum, 65 ft³/s Aug. 16, 17, 18, 1965.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 7,000 ft³/s and maximum (*):

Date	Time	Discharge (ft³/s)	Gage height (ft)
Nov. 20	1045	11,900	10.76
Nov. 23	2015	*30,900	15.98
Mar. 19	1145	9,050	9.33

Minimum discharge, 111 ft³/s Sept. 8.

DISCHARGE (CUBIC FEET/SECOND) WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	128	176	1060	256	324	298	1150	785	305	170	116	127
2	125	200	923	249	334	278	1190	668	278	166	116	121
3	123	533	1120	249	321	334	1590	711	257	160	146	117
4	145	1470	4980	268	315	791	2710	701	258	181	153	120
5	196	1070	3330	261	333	2070	2270	624	248	271	145	121
6	217	752	2250	292	312	1490	1720	708	235	376	140	119
7	205	619	1530	307	308	1130	1400	1290	239	317	141	116
8	188	686	1170	284	254	855	1410	2050	225	269	141	112
9	171	640	909	337	264	731	2030	1590	223	267	158	133
10	163	462	762	324	269	625	1750	1240	212	211	170	181
11	155	381	3170	309	461	561	1450	1060	204	193	179	214
12	176	368	3720	297	774	539	1300	814	211	188	175	367
13	182	428	2200	292	1840	547	1230	704	195	181	161	347
14	176	335	1560	279	1430	474	1030	678	189	168	151	281
15	168	278	1230	268	1160	520	877	586	211	159	143	243
16	163	255	1020	260	929	571	800	582	216	153	137	224
17	158	283	858	250	757	958	729	500	198	147	132	212
18	158	236	725	248	618	1700	645	442	188	142	130	197
19	157	274	612	231	583	6420	632	408	181	138	130	180
20	189	7530	569	208	615	3390	575	369	204	140	130	171
21	318	3520	574	196	548	2280	1790	439	328	137	127	164
22	1080	1640	520	200	457	1760	4140	366	316	132	135	167
23	553	12200	466	215	397	1390	2510	339	332	131	158	1310
24	417	8640	391	228	368	1230	1780	337	329	127	168	1200
25	323	2890	429	311	340	1320	1420	306	247	125	162	646
26	270	1950	373	392	377	1310	1160	317	218	123	155	647
27	236	1800	355	305	325	1150	1000	377	203	130	148	501
28	215	3990	350	352	319	1190	880	396	192	141	142	432
29	201	2380	327	397	315	1950	890	364	182	125	138	380
30	191	1440	305	338	---	1670	748	328	176	120	134	342
31	183	---	269	304	---	1340	---	317	---	116	130	---
TOTAL	7330	57426	38057	8707	15647	40872	42806	20396	7000	5404	4491	9492
MEAN	236	1914	1228	281	540	1318	1427	658	233	174	145	316
MAX	1080	12200	4980	397	1840	6420	4140	2050	332	376	179	1310
MIN	123	176	269	196	254	278	575	306	176	116	116	112

CAL YR 1983	TOTAL	297784	MEAN	816	MAX	27900	MIN	102
WTR YR 1984	TOTAL	257628	MEAN	704	MAX	12200	MIN	112

07062000 CLEARWATER LAKE NEAR PIEDMONT, MO

LOCATION.--Lat 37°08'00", long 90°46'31", NW¼ sec.6, T.28 N., R.3 E., Wayne County, Hydrologic Unit 11010007, in intake tower at dam on Black River, 2.3 mi upstream from Brewer Bay, 4.5 mi west of Piedmont, and at mile 257.4.

DRAINAGE AREA.--898 mi^2.

PERIOD OF RECORD.--June 1948 to current year.

GAGE.--Water-stage recorder. Datum of gage is at National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers).

REMARKS.--Lake is formed by earthfill dam. Storage began June 3, 1948; conservation pool level reached July 4, 1948. Capacity at crest of spillway 413,700 acre-ft at elevation 567 ft, of which 391,800 acre-ft is available for flood-control storage, and 21,920 acre-ft is permanent storage which under normal operating conditions will be maintained for purposes of conservation and recreation at elevation 494 ft. Lake used for flood control and incidental recreational purposes.

COOPERATION.--Records furnished by Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 399,400 acre-ft May 28, 1957, elevation, 565.59 ft; minimum, since initial filling to conservation pool level, 15,800 acre-ft Jan. 20, 23, 1972, elevation, 490 00 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 150,400 acre-ft Dec. 13, elevation, 532.67 ft; minimum, 20,000 acre-ft Oct. 17; minimum elevation, 492.79 ft Mar. 29.

Capacity table (elevation table (elevation, in feet NGVD, and contents, in acre-ft)

493	20,300	520	91,600
498	28,900	530	137,000
504	41,500	540	193,000
510	57,300	551	269,000

RESERVOIR STORAGE (AC-FT), WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	24200	22300	117900	52400	22600	22600	39300	62900	29300	28100	28900	26500
2	24300	22500	118900	46700	22300	22400	37100	65000	29100	28200	27600	26400
3	24400	23200	123000	41400	22200	22300	38400	66400	29000	28500	27400	26300
4	25000	24700	135300	36000	22300	22700	39500	63700	29000	28800	27500	26100
5	25200	25500	142500	31600	22300	25600	38600	61000	29200	29100	27600	26100
6	25300	25800	145000	28700	22300	28800	36300	61900	29300	29300	27700	26100
7	25300	25300	143500	26900	22300	29600	33700	67200	29300	29300	27800	26100
8	25300	24400	140200	25100	22200	27800	33800	72700	29200	29100	27900	26400
9	25200	23500	136200	23400	22100	25700	36000	73400	29200	28900	28000	26600
10	25100	23000	135600	22400	22100	23700	36900	72000	29100	28700	27900	26800
11	24000	22600	143000	22100	22100	22500	35300	69400	29000	28300	27900	27200
12	24000	22200	149300	22000	23100	21900	33100	66400	28800	28000	27800	27600
13	23400	22000	150400	22100	26100	21600	30500	63000	28700	27900	27700	27700
14	22300	22100	148900	22100	27100	22000	27800	59400	28600	28000	27500	27700
15	21200	22000	145900	22200	26000	22500	25100	55500	28500	28100	27400	27600
16	20100	22000	141800	22200	24100	22600	22400	51600	28400	28200	27200	27400
17	20000	22100	137400	22300	22700	22600	22000	47700	28400	28200	27100	27300
18	20100	22100	132600	22300	21900	27600	21300	44600	28500	28300	27200	27200
19	20300	22700	127300	22200	21800	42000	21300	42200	28700	28300	27300	27200
20	20700	34800	122000	22100	22200	50800	22000	39900	29000	28300	27300	27200
21	21200	42700	116900	21900	22100	52300	23700	37500	29400	28200	27300	27200
22	22500	45600	111200	21900	21900	51000	32800	35200	29600	28200	27500	27500
23	23600	67300	105600	22000	21700	48700	39600	32700	29700	28200	27600	29000
24	23900	94200	100000	22100	21800	47000	44100	29900	29600	28200	27500	30500
25	23700	99300	94300	22300	22000	46000	47400	29000	29400	28300	27500	30000
26	23300	102000	87800	22700	22300	45200	50800	29000	28900	28500	27300	29000
27	23000	106200	82500	22900	22700	44000	53500	29200	28400	28500	27200	28100
28	22700	114300	76400	22900	22700	44600	55300	29300	28200	28600	27100	26900
29	22400	118100	70400	23100	22600	45500	56400	29400	28200	28700	26900	25600
30	22200	119000	64300	23100	---	44400	60300	29400	28200	28800	26800	24300
31	22200	---	58400	22900	---	42000	---	29300	---	28800	26700	---
WTR YR 1984												
(†)	494.15	526.36	510.38	494.58	494.43	504.22	511.29	498.25	497.63	497.98	496.80	495.41
(‡)	-1800	+96800	-60600	-35500	-300	+19400	+18300	-31000	-1100	+600	-2100	-2400
MAX	25300	119000	150400	52400	27100	52300	60300	73400	29700	29300	28900	30500
MIN	20000	22000	58400	21900	21700	21600	21300	29000	28200	27900	26700	24300

CAL YR 1983................(‡) -249300
WTR YR 1984................(‡) +300

(†) Elevation, in feet NGVD, at end of month.
(‡) Change in contents, in acre-feet.

07062500 BLACK RIVER AT LEEPER, MO

LOCATION.--Lat 37°03'32", long 90°41'12", in NE¼SE¼NE¼ sec.35, T.28 N., R.3 E., Wayne County, Hydrologic Unit 11010007, on downstream side of center pier of bridge on State Highway 49, 1 mi south of Leeper, 4 mi downstream from McKenzie Creek, 8 mi downstream from Clearwater Dam, and at mile 249.

DRAINAGE AREA.--987 mi^2.

PERIOD OF RECORD.--June 1921 to current year.

REVISED RECORDS.--WSP 762: 1933(M). WSP 1007: 1943. WSP 1281: 1922-23, 1927-29(M).

GAGE.--Water-stage recorder. Datum of gage is 416.54 ft National Geodetic Vertical Datum of 1929. Prior to Oct. 22, 1937, nonrecording gage; Oct. 22, 1937, to Jan. 21, 1942, water-stage recorder; and Jan. 22 to Apr. 6, 1942, nonrecording gage; all at site 1,900 ft downstream from Highway 34 at datum 3.85 ft lower. From Apr. 7, 1942 to Jan. 28, 1981, records were obtained from water-stage recorder attached to downstream pier on Highway 34 bridge.

REMARKS.--Records good. Flow regulated by Clearwater Lake since June 3, 1948. Several observations of water temperatures and specific conductance were made during the year.

AVERAGE DISCHARGE.--63 years, 955 ft^3/s, 691,500 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 78,400 ft^3/s May 14, 1933, gage height, 20.01 ft, site and datum then in use, from rating curve extended above 55,000 ft^3/s; minimum, 62 ft^3/s Sept. 22-25, 1966, at site and datum then in use, result of closure of Clearwater Dam: minimum, prior to regulation, 133 ft^3/s Aug. 11, 1934.

EXREMES OUTSIDE PERIOD OF RECORD.--Flood of March 1904 reached a stage of about 22.3 ft, at site and datum of gage operated from Apr. 7, 1942 to Jan. 28, 1981 from floodmarks, discharge, 125,000 ft^3/s, from rating curve extended above 55,000 ft^3/s.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 4,170 ft^3/s Dec. 20, gage height, 7.03 ft; minimum daily 171 ft^3/s Apr. 27.

DISCHARGE (CUBIC FEET/SECOND) WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	192	284	1500	3940	675	619	3060	296	565	373	227	311
2	192	266	2300	3830	674	619	3130	248	562	355	433	311
3	191	290	425	3700	648	618	1600	228	560	269	797	313
4	206	500	750	3580	537	631	1990	2000	517	299	321	311
5	214	650	550	3330	525	588	3730	2420	386	379	262	293
6	212	750	750	2300	520	346	3690	2360	398	392	253	233
7	286	1000	2360	1610	518	498	3580	1290	453	505	247	225
8	299	1000	3320	1540	515	2020	2410	1080	452	515	245	222
9	300	900	3650	1500	516	2090	1510	2190	448	519	268	241
10	302	800	2880	1340	515	2060	1760	3100	448	519	330	225
11	336	650	721	814	515	1700	2660	3340	446	520	335	236
12	565	600	1130	618	586	1230	3200	3290	444	517	334	243
13	585	550	2680	576	517	1120	3120	3220	443	461	333	324
14	607	450	2940	491	1100	680	3040	3210	444	324	327	396
15	735	425	3610	478	2020	643	2960	3240	445	312	331	402
16	741	375	3750	473	2420	726	2680	3170	449	308	334	404
17	581	350	3980	468	2170	1080	1870	3090	456	306	323	404
18	287	350	3950	471	1460	1400	1310	2810	415	304	256	378
19	222	325	4010	490	1180	1210	1040	2010	296	303	243	311
20	217	325	4170	488	800	1210	965	1950	283	302	239	305
21	216	600	4140	485	845	2360	880	1910	280	299	241	304
22	220	650	4110	460	954	3300	686	1880	337	293	249	321
23	215	325	4120	430	785	3240	404	1860	501	282	243	326
24	241	325	4050	423	727	3040	242	1990	511	272	256	430
25	485	750	3980	423	570	2150	198	1460	535	243	302	1240
26	515	1100	3920	421	553	2070	179	652	606	239	303	1300
27	526	1000	3980	439	564	2050	171	609	619	235	307	1300
28	526	500	4160	529	561	1830	175	595	562	231	312	1290
29	460	1000	4130	536	616	1520	237	580	390	230	312	1280
30	442	1200	4080	556	---	2600	527	572	377	228	312	1270
31	432	---	4040	669	---	3110	---	568	---	228	310	---
TOTAL	11548	18290	94136	37408	24586	48358	53004	57218	13628	10562	9585	15149
MEAN	373	610	3037	1207	848	1560	1767	1846	454	341	309	505
MAX	741	1200	4170	3940	2420	3300	3730	3340	619	526	797	1300
MIN	191	266	425	421	515	346	171	228	280	228	227	222

CAL YR 1983 TOTAL 589453 MEAN 1615 MAX 6690 MIN 102
WTR YR 1984 TOTAL 393472 MEAN 1075 MAX 4170 MIN 171

07063000 BLACK RIVER AT POPLAR BLUFF, MO

LOCATION.--Lat 36°45'34", long 90°23'17", in SW¼NW¼ sec.2, T.24 N., R.6 E., Butler County, Hydrologic Unit 11010007, on right bank at City Light and Water Plant in Poplar Bluff, 1,500 ft upstream from bridge on U.S. Highway 60, 4.8 mi downstream from Indian Creek, and at mile 211.2.

DRAINAGE AREA.--1,245 mi².

WATER DISCHARGE RECORDS

PERIOD OF RECORD.--October 1936 to September 1937, October 1939 to current year. Gage-height records collected at site 1,800 ft downstream September 1923 to July 1935, and since July 1935 at site 1,500 ft downstream are contained in reports of National Weather Service.

REVISED RECORDS.--WSP 927: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 317.38 ft National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1940, nonrecording gage at site 1,500 ft downstream at datum 2.00 ft higher; Oct. 1, 1940, to June 7, 1955, at site 1,500 ft downstream at present datum.

REMARKS.--Water discharge records good. Flow regulated by Clearwater Lake.

AVERAGE DISCHARGE.--46 years, 1,290 ft³/s, 934,600 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 65,600 ft³/s Dec. 4, 1982, computed from slope-area measurement, gage height, 21.68 ft; minimum, 180 ft³/s Sept. 25, 26, 1966, closure of Clearwater Dam for repairs; minimum prior to regulation, 236 ft³/s Aug. 12, 1944.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of March 1904 reached a maximum discharge of 100,000 ft³/s and flood on Mar. 12, 1935 reached a stage of 21.1 ft, present datum (affected by levees constructed since 1904).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,670 ft³/s Apr. 3, gage height, 12.35 ft; minimum, 352 ft³/s Oct. 3.

DISCHARGE (CUBIC FEET/SECOND) WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	357	603	1890	3870	1000	967	3450	1090	903	602	423	459
2	358	519	2380	3790	1020	985	3460	864	888	591	419	460
3	356	535	2600	3720	1050	978	4320	757	879	583	562	470
4	403	791	3390	3640	1010	1030	3520	796	866	542	867	467
5	423	605	2640	3550	910	1210	3200	2110	817	591	565	462
6	397	778	2020	3370	870	1100	3940	2650	702	616	465	449
7	393	870	2020	2660	854	869	4010	3050	691	619	438	397
8	454	978	2890	2050	846	1060	3920	3310	726	707	426	379
9	478	1220	3450	1890	843	2090	3710	2490	724	722	422	414
10	482	1290	3720	1850	849	2300	3170	2880	719	721	435	401
11	491	1190	3940	1650	845	2330	2940	3420	714	721	490	411
12	553	975	2740	1250	1260	2010	3380	3580	709	722	502	398
13	713	930	2370	1050	2150	1730	3730	3560	703	716	502	391
14	751	867	3170	966	1560	1530	3650	3500	708	669	501	450
15	800	753	3410	872	1750	1180	3530	3460	702	550	497	524
16	898	711	3700	834	2370	1110	3420	3450	744	520	496	542
17	917	681	3800	810	2660	1430	3140	3390	701	510	494	549
18	752	616	3930	797	2440	2000	2470	3320	696	502	485	555
19	533	636	3920	785	1950	2500	1900	3050	675	494	429	539
20	450	1610	3940	790	1580	2620	1610	2510	576	489	406	479
21	452	1180	4020	787	1270	2480	1520	2360	543	485	397	462
22	482	898	4070	782	1250	2980	1420	2280	546	482	416	472
23	433	2870	4060	801	1280	3460	1230	2230	572	478	416	528
24	420	3440	4030	819	1160	3520	983	2200	704	476	402	494
25	463	1590	3970	811	1070	3410	796	2280	724	469	408	578
26	645	1230	3940	833	932	2820	690	1760	755	455	451	1080
27	693	1840	3920	823	947	2610	636	1170	809	441	462	1200
28	706	2270	3900	826	951	2990	609	1060	819	433	468	1240
29	702	1670	3950	896	920	3420	651	990	774	429	467	1240
30	647	1710	3930	907	---	2810	788	946	637	424	466	1240
31	631	---	3910	911	---	3170	---	923	---	423	462	---
TOTAL	17233	35856	105620	49390	37597	64699	75793	71436	21726	17182	14639	17730
MEAN	556	1195	3407	1592	1296	2087	2526	2304	724	554	472	591
MAX	917	3440	4070	3870	2660	3520	4320	3580	903	722	867	1240
MIN	356	519	1890	782	843	869	609	757	543	423	397	379

CAL YR 1983	TOTAL	737737	MEAN	2021	MAX	7630	MIN	356
WTR YR 1984	TOTAL	528901	MEAN	1445	MAX	4320	MIN	356

07063000 BLACK RIVER AT POPLAR BLUFF, MO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--November 1983 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS) (00061)	SPECIFIC CONDUCTANCE (UMHOS) (00095)	PH (STANDARD UNITS) (00400)	TEMPERATURE (DEG C) (00010)	OXYGEN, DISSOLVED (MG/L) (00300)	OXYGEN, DISSOLVED (PERCENT SATURATION) (00301)	OXYGEN DEMAND, CHEMICAL (HIGH LEVEL) (MG/L) (00340)	COLIFORM, FECAL, 0.7 UM-MF (COLS./100 ML) (31625)	HARDNESS (MG/L AS CACO3) (00900)
NOV										
08...	0900	259	271	7.2	13.5	9.4	90	--	110	140
JAN										
04...	0745	1000	169	7.6	5.0	7.6	69	--	K8	--
25...	1020	808	219	7.4	4.5	10.0	77	<10	39	110
FEB										
15...	1230	1760	170	7.4	9.0	11.4	99	10	140	--
MAR										
07...	0845	879	196	7.4	7.5	8.8	74	12	K12	--
APR										
06...	0745	3920	157	8.0	11.0	10.6	93	14	K30	77
MAY										
02...	1425	842	162	7.3	17.0	5.0	51	16	K400	--
JUN										
07...	0730	672	222	7.1	23.0	6.6	75	31	K14	--
JUL										
17...	1605	518	269	7.9	27.0	8.0	99	16	>1200	140
AUG										
22...	1115	425	269	7.6	24.0	7.0	81	--	K11000	--
SEP										
11...	1550	413	266	7.9	24.0	8.1	94	20	270	--

DATE	HARDNESS, NONCARBONATE (MG/L CACO3) (00902)	CALCIUM DISSOLVED (MG/L AS CA) (00915)	MAGNESIUM, DISSOLVED (MG/L AS MG) (00925)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	POTASSIUM, DISSOLVED (MG/L AS K) (00935)	ALKALINITY FIELD (MG/L AS CACO3) (00410)	CARBON DIOXIDE DISSOLVED (MG/L AS CO2) (00405)	SULFATE DISSOLVED (MG/L AS SO4) (00945)	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)	FLUORIDE, DISSOLVED (MG/L AS F) (00950)
NOV										
08...	2	29	17	2.5	1.2	141	17	11	3.0	<.10
JAN										
04...	--	--	--	--	--	78	3.8	--	--	--
25...	16	22	13	2.1	1.0	93	7.2	9.5	2.7	<.10
FEB										
15...	--	--	--	--	--	75	5.8	--	--	--
MAR										
07...	--	--	--	--	--	91	7.0	--	--	--
APR										
06...	15	16	9.1	1.8	1.0	63	1.2	11	2.1	<.10
MAY										
02...	--	--	--	--	--	62	6.0	--	--	--
JUN										
07...	--	--	--	--	--	94	14	--	--	--
JUL										
17...	0	28	16	2.3	1.2	135	3.3	8.6	2.6	<.10
AUG										
22...	--	--	--	--	--	118	5.7	--	--	--
SEP										
11...	--	--	--	--	--	132	3.2	--	--	--

K--Results based on colony count outside the acceptable range (non-ideal colony count).

07063000 BLACK RIVER AT POPLAR BLUFF, MO--Continued

DATE	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L) (00530)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	PHOS-PHORUS, TOTAL (MG/L AS P) (00665)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD) (01027)	CADMIUM DIS-SOLVED (UG/L AS CD) (01025)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)
NOV										
08...	151	--	--	--	--	<1	1	6	3	490
JAN										
04...	--	7	.60	.010	.020	--	--	--	--	--
25...	113	4	.60	.020	<.010	2	<1	4	<1	210
FEB										
15...	--	31	.40	.130	<.010	--	--	--	--	--
MAR										
07...	--	9	.30	.030	.020	--	--	--	--	--
APR										
06...	88	31	.40	.050	.020	<1	<1	6	3	680
MAY										
02...	--	32	.30	.040	.030	--	--	--	--	--
JUN										
07...	--	21	.40	.020	.010	--	--	--	--	--
JUL										
17...	135	<2	.20	.010	.010	<1	<1	6	1	360
AUG										
22...	--	23	.20	.020	.010	--	--	--	--	--
SEP										
11...	--	9	.10	.010	.010	--	--	--	--	--

DATE	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB) (01051)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG) (71900)	MERCURY DIS-SOLVED (UG/L AS HG) (71890)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN) (01092)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)
NOV									
08...	11	4	1	110	11	<.1	<.1	50	9
JAN									
04...	--	--	--	--	--	--	--	--	--
25...	46	2	<1	90	63	<.1	<.1	30	7
FEB									
15...	--	--	--	--	--	--	--	--	--
MAR									
07...	--	--	--	--	--	--	--	--	--
APR									
06...	41	1	<1	90	21	<.1	<.1	40	10
MAY									
02...	--	--	--	--	--	--	--	--	--
JUN									
07...	--	--	--	--	--	--	--	--	--
JUL									
17...	14	<1	6	80	12	--	<.1	30	9
AUG									
22...	--	--	--	--	--	--	--	--	--
SEP									
11...	--	--	--	--	--	--	--	--	--

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07066000 JACKS FORK AT EMINENCE, MO

LOCATION.--Lat 37°09'18", long 91°21'31", in SW¼NW¼ sec.26, T.29 N., R.4 W., Shannon County, Hydrologic Unit 11010008, on left bank 50 ft upstream from bridge on State Highway 19, at Eminence, 1.5 mi downstream from Mahans Creek, and 8.0 mi upstream from mouth.

DRAINAGE AREA.--398 mi^2.

PERIOD OF RECORD.--October 1921 to current year. Monthly discharge only for October 1921, published WSP 1311.

REVISED RECORDS.--WSP 787: 1928(M), 1934. WSP 877: 1938. WSP 927: Drainage area. WSP 1281: 1929.

GAGE.--Water-stage recorder. Datum of gage is 617.87 ft National Geodetic Vertical Datum of 1929. Prior to Jan. 27, 1934, nonrecording gage at site 1,350 ft upstream at datum 2.11 ft higher. Jan. 27, 1934, to Jan. 10, 1935, nonrecording gage at site 75 ft downstream at datum 0.04 ft lower. Jan. 11, 1935, to July 9, 1964, nonrecording gage at site 50 ft downstream at present datum.

REMARKS.--Records good. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--63 years, 444 ft^3/s, 15.15 in/yr, 321,700 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 40,200 ft^3/s April 30, 1983, gage height, 17.03 ft, present site and datum, from rating curve extended above 21,000 ft^3/s; minimum, 0.64 ft^3/s Aug. 28, 1936.

EXTREMES OUTSIDE PERIOD OF RECORD.--Floods in 1895 and March 1904 reached a stage of about 25 ft present site and datum, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 3,900 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 20	1100	4,060	5.76
Dec. 4	1000	5,050	6.41
Mar. 19	0845	*17,100	11.82
Apr. 22	0015	4,280	5.92

Minimum discharge, 142 ft^3/s Oct. 1-4.

DISCHARGE (CUBIC FEET/SECOND) WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	144	155	779	321	286	328	1260	582	441	250	215	182
2	144	157	749	304	281	344	1140	554	411	246	215	182
3	143	207	1350	304	281	450	1510	552	393	244	224	184
4	174	1370	3560	306	280	1100	1720	543	376	261	227	183
5	200	1370	1950	307	270	2510	1460	514	368	295	218	183
6	212	705	1440	302	260	1810	1190	1640	362	264	212	182
7	200	507	1020	299	248	1340	961	2040	359	263	209	179
8	178	407	811	301	243	1010	964	2890	356	255	208	180
9	167	337	665	295	239	788	1330	1890	352	249	211	209
10	159	293	639	294	255	652	1550	1510	352	245	210	203
11	155	268	1610	284	572	593	1290	1190	334	243	212	208
12	160	252	1920	274	826	559	1100	939	317	240	208	198
13	157	233	1430	269	1660	563	1000	806	312	233	202	191
14	155	217	1080	259	1130	578	887	696	308	229	196	188
15	152	205	850	253	824	558	806	612	305	229	194	186
16	148	197	688	252	692	535	740	566	373	228	192	182
17	148	189	590	251	618	1210	701	535	434	229	192	180
18	148	181	539	248	562	3020	659	509	379	227	191	181
19	150	641	508	244	526	8710	626	494	377	222	192	182
20	160	2990	485	257	482	2860	613	484	361	218	190	182
21	188	1570	470	257	448	1920	1490	473	348	216	189	182
22	226	976	454	252	427	1550	2920	458	325	213	221	522
23	236	3910	431	248	409	1210	1860	444	311	209	228	890
24	215	3540	415	255	391	1090	1500	414	297	208	239	547
25	193	1550	406	267	369	1860	1180	397	285	206	217	397
26	180	1020	383	298	344	1550	983	413	277	211	204	327
27	172	1520	381	312	368	1320	848	459	273	213	196	310
28	166	2030	376	325	364	1600	731	619	270	213	195	291
29	160	1480	355	323	339	2120	664	640	260	213	193	251
30	158	952	343	311	---	1720	645	521	254	209	191	228
31	156	---	338	297	---	1460	---	467	---	207	186	---
TOTAL	5304	29429	27015	8769	13994	46918	34328	24851	10170	7188	6377	7690
MEAN	171	981	871	283	483	1513	1144	802	339	232	206	256
MAX	236	3910	3560	325	1660	8710	2920	2890	441	295	239	890
MIN	143	155	338	244	239	328	613	397	254	206	186	179

CAL YR 1983 TOTAL 217962 MEAN 597 MAX 19700 MIN 138
WTR YR 1984 TOTAL 222033 MEAN 607 MAX 8710 MIN 143

07067000 CURRENT RIVER AT VAN BUREN, MO

LOCATION.--Lat 36°59'29", long 91°00'53", in NE¼NW¼ sec.25, T.27 N., R.1 W., Carter County, Hydrologic Unit 11010008, near right bank on downstream side of pier of bridge on U.S. Highway 60 in Van Buren, 0.4 mi downstream from Pike Creek, 4.7 mi upstream from Big Creek, and at mile 90.4.

DRAINAGE AREA.--1,667 mi².

PERIOD OF RECORD.--October 1912 to current year. Prior to July 1921 monthly discharge only, published in WSP 1311.

REVISED RECORDS.--WSP 877: 1938. WSP 897: 1939. WSP 927: Drainage area. WSP 1281: 1929.

GAGE.--Water-stage recorder. Datum of gage is 442.78 ft National Geodetic Vertical Datum of 1929. Prior to Sept. 1, 1926, nonrecording gage at site 100 ft downstream at different datum; Sept. 1, 1926 to Oct. 19, 1934, nonrecording gage and Oct. 20, 1934 to Sept. 30, 1939, water-stage recorder, at present site and datum 3.00 ft higher, set to read same as gage 100 ft downstream.

REMARKS.--Records good. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--72 years, 1,869 ft³/s, 15.23 in/yr, 1,354,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 125,000 ft³/s Aug. 21, 1915, gage height, 25.9 ft, present datum, minimum 473 ft³/s Oct. 7, 8, 1956.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Mar. 26, 1904, reached a stage of 29.0 ft, present datum, from floodmarks.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 14,000 ft³/s and maximum (*):

Date	Time	Discharge (ft³/s)	Gage height (ft)
Nov. 23	2045	19,800	12.09
Mar. 20	0330	*26,800	14.37

Minimum discharge, 738 ft³/s Oct. 3-4.

REVISIONS.--The peak dishcarge for Dec. 3, 1982 has been revised to 71,100 ft/s.

DISCHARGE (CUBIC FEET/SECOND) WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	758	816	3770	1610	1440	1540	4640	3270	2340	1290	1120	1010
2	749	842	3440	1590	1420	1550	4200	3060	2210	1270	1120	997
3	745	920	4600	1560	1420	1640	4930	2980	2120	1250	1180	1020
4	887	2190	10600	1550	1400	2090	5990	2950	2040	1290	1460	1030
5	1020	5440	9410	1560	1380	4490	5600	2790	1970	1520	1250	1000
6	979	3230	6160	1570	1340	5370	4930	4560	1960	1470	1180	985
7	933	2320	4850	1560	1300	4460	4430	6920	1930	1400	1160	975
8	880	1920	4120	1540	1260	3860	4570	8520	1880	1340	1160	968
9	838	1670	3620	1500	1240	3350	5450	6990	1830	1310	1330	1170
10	812	1520	3310	1520	1280	2950	5500	5510	1760	1290	1400	1190
11	798	1410	4610	1490	1690	2670	5080	4840	1710	1290	1360	1180
12	863	1320	6920	1450	2560	2510	4670	4340	1670	1290	1270	1530
13	835	1240	5620	1440	4150	2460	4390	3920	1620	1250	1190	1550
14	808	1180	4840	1400	4420	2390	4080	3600	1590	1230	1140	1380
15	794	1140	4260	1370	3720	2320	3840	3320	1590	1230	1110	1240
16	781	1080	3590	1360	3260	2270	3620	3100	1750	1220	1090	1140
17	781	1040	3000	1350	2920	2850	3420	2900	1740	1220	1080	1090
18	782	1010	2630	1360	2630	6700	3230	2730	1690	1210	1080	1060
19	784	1300	2370	1310	2410	16600	3050	2610	1610	1180	1090	1010
20	832	7970	2210	1270	2230	17800	2900	2530	1590	1160	1080	971
21	970	6360	2160	1250	2060	8230	4070	2500	1610	1160	1070	938
22	1220	4110	2110	1250	1960	6230	9210	2550	1760	1150	1140	1000
23	1220	10800	2030	1340	1870	5110	8220	2610	1620	1130	1210	4570
24	1140	14800	1940	1390	1800	4560	6150	2520	1540	1110	1160	3400
25	1030	7130	1890	1430	1720	5120	5120	2310	1460	1100	1130	2290
26	953	4980	1940	1480	1640	5370	4530	2430	1420	1110	1100	1860
27	903	5010	1900	1540	1690	4800	4110	2860	1390	1130	1070	1620
28	874	7620	1870	1550	1690	5540	3740	2960	1370	1120	1060	1520
29	854	5970	1800	1550	1600	7780	3520	3090	1340	1110	1050	1360
30	837	4550	1690	1530	---	6700	3610	2790	1310	1090	1040	1220
31	828	---	1620	1480	---	5330	---	2520	---	1090	1020	---
TOTAL	27498	110888	114880	45150	59500	154640	140800	110580	51420	38010	35900	42274
MEAN	887	3696	3706	1456	2052	4988	4693	3567	1714	1226	1158	1409
MAX	1230	14800	10600	1610	4420	17800	9210	8520	2340	1520	1460	4570
MIN	745	816	1620	1250	1240	1540	2900	2310	1310	1090	1020	938

CAL YR 1983	TOTAL	929847	MEAN	2548	MAX	60800	MIN	745
WTR YR 1984	TOTAL	931540	MEAN	2545	MAX	17800	MIN	745

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07067500 BIG SPRING NEAR VAN BUREN, MO

LOCATION.--Lat 36°57'05", long 90°59'36", in SW¼NE¼ sec.6, T.26 N., R.1 E., Carter County, Hydrologic Unit 11010008, on right bank 400 ft downstream from spring outlet, 0.4 mi upstream from Current River, and 3.5 mi southeast of Van Buren.

PERIOD OF RECORD.--October 1921 to current year. Prior to Oct. 1, 1923, published as "near Chicopee". Monthly discharge only for some periods, published in WSP 1311.

REVISED RECORDS.--WSP 1311: 1922-23, 1928(M), 1929.

GAGE.--Nonrecording gage. Datum of gage is 429.08 ft National Geodetic Vertical Datum of 1929. Prior to Feb. 19, 1971, nonrecording gage; prior to Oct. 1, 1934 at datum 1.0 ft higher. Water-stage recorder Feb. 19, 1971 to March 15, 1978, at present datum.

REMARKS.--Records good except during periods of backwater from Current River which are fair. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--63 years, 438 ft^3/s, 317,300 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,000 ft^3/s, estimated, Dec. 3, 1982, during period of backwater from Current River; minimum, 236 ft^3/s Oct. 6, 1956.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 1,500 ft^3/s, Mar. 20; minimum daily, 294 ft^3/s Mar. 2.

DISCHARGE (CUBIC FEET/SECOND) WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	318	302	711	532	489	300	600	735	536	451	395	340
2	318	304	679	532	489	294	584	703	529	455	390	340
3	318	307	750	532	489	300	600	679	519	455	385	335
4	321	335	900	529	480	307	750	634	516	451	385	335
5	321	608	1050	532	477	506	700	623	513	458	380	330
6	318	532	1000	529	474	907	650	615	509	455	380	330
7	318	391	925	526	461	559	620	673	506	455	375	325
8	318	329	867	529	461	475	700	900	503	445	375	325
9	318	350	751	526	458	404	800	1100	499	445	370	325
10	315	344	727	519	451	373	1000	1300	496	448	365	320
11	312	335	800	523	454	352	975	1150	493	445	365	350
12	312	329	950	516	474	347	950	1050	494	438	365	400
13	312	326	1050	513	731	344	890	950	486	438	365	380
14	310	323	1000	516	687	338	823	703	483	429	365	370
15	310	318	920	509	566	335	785	668	483	429	360	360
16	307	315	715	516	493	347	785	645	483	429	360	350
17	304	315	707	519	458	376	707	630	483	429	360	345
18	304	312	715	513	432	600	664	604	480	432	360	340
19	299	382	649	513	413	1000	641	594	477	429	360	335
20	307	500	635	506	391	1500	619	587	477	429	358	330
21	307	900	619	499	382	1300	900	583	477	429	355	340
22	307	700	601	506	370	1000	1000	573	474	429	355	400
23	307	700	573	508	361	750	1150	566	474	419	350	520
24	310	1000	576	510	352	700	1100	559	470	416	350	490
25	307	1200	573	509	341	650	1000	556	467	416	348	460
26	302	1000	566	513	329	700	950	552	467	419	348	450
27	304	900	559	513	323	625	900	569	467	416	345	425
28	302	850	552	513	315	700	691	569	461	410	345	400
29	304	775	547	513	307	800	679	556	461	405	345	380
30	304	750	542	503	---	700	802	552	458	400	340	360
31	304	---	546	499	---	600	---	542	---	400	340	---
TOTAL	9618	16032	22755	16016	12908	18489	24015	21720	14641	13404	11239	11090
MEAN	310	534	734	517	445	596	801	701	488	432	363	370
MAX	321	1200	1050	532	731	1500	1150	1300	536	458	395	520
MIN	299	302	542	499	307	294	584	542	458	400	340	320

CAL YR 1983 TOTAL 193343 MEAN 530 MAX 2000 MIN 299
WTR YR 1984 TOTAL 191927 MEAN 524 MAX 1500 MIN 294

07068000 CURRENT RIVER AT DONIPHAN, MO

LOCATION.--Lat 36°37'19", long 90°50'51", in NW¼NW¼ sec.27, T.23 N., R.2 E., Ripley County, Hydrologic Unit 11010008, on right bank 0.5 mi upstream from U.S. Highway 160, 1 mi west of Doniphan, 2.5 mi upstream from Briar Creek, and at mile 51.3.

DRAINAGE AREA.--2,038 mi².

WATER DISCHARGE RECORDS

PERIOD OF RECORD.--October 1918 to current year. Prior to July 1921 monthly discharge only, published in WSP 1311.

REVISED RECORDS.--WSP 877: 1937-38(M). WSP 927: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 321.21 ft, National Geodetic Vertical Datum of 1929. July, 1936, to Sept. 30, 1971, datum was 1.00 ft higher. Prior to July 3, 1936, nonrecording gages at several sites 0.5 mi downstream at various data.

REMARKS.--Water discharge records good.

AVERAGE DISCHARGE.--66 years, 2,720 ft³/s, 18.12 in/yr, 1,971,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 127,000 ft³/s December 3, 1982, gage height, 25.49 ft, present site and datum, from contracted opening measurement; minimum, 852 ft³/s Oct. 8-19, 1956.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of March 1904 reached a stage of 25.9 ft, from floodmarks, present site and datum, discharge, 130,000 ft³/s from rating curve extended above 60,000 ft³/s.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 14,000 ft³/s and maximum (*):

Date	Time	Discharge (ft³/s)	Gage height (ft)
Nov. 24	1715	18,500	9.00
Mar. 21	1415	*26,300	11.24

Minimum daily discharge, 1,330 ft³/s Oct. 2.

DISCHARGE (CUBIC FEET/SECOND) WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1340	1500	4890	2430	2030	2100	6500	4980	2970	1870	1650	1460
2	1330	1650	4510	2400	1990	2100	6000	4700	2850	1860	1650	1450
3	1340	1750	5120	2350	1900	2100	6200	4550	2750	1850	1680	1470
4	1620	2670	9400	2330	1770	2400	6730	4480	2660	1850	1760	1470
5	1740	4650	11900	2320	1740	4000	6760	4390	2580	1950	1810	1460
6	1730	4780	8440	2320	1740	6270	6500	4640	2520	2010	1720	1440
7	1660	3480	6550	2310	1700	5790	6000	7140	2520	1960	1690	1420
8	1600	2960	5530	2280	1650	5570	5600	10100	2450	1890	1660	1410
9	1520	2660	4860	2240	1600	5050	6000	9790	2390	1860	1690	1620
10	1480	2460	4440	2230	1600	4570	6200	7860	2330	1840	1760	1640
11	1460	2290	4780	2190	1800	4170	6500	6700	2260	1830	1790	1650
12	1550	2160	6770	2140	3000	3890	6620	5920	2200	1840	1760	1670
13	1540	2040	7130	2100	3070	3730	6320	5330	2180	1800	1710	1850
14	1490	1970	6090	2050	3360	3630	5940	4890	2050	1780	1660	1810
15	1450	1890	5430	2000	3180	3560	5600	4480	2000	1770	1620	1720
16	1440	1810	4870	1960	2650	3520	5330	4170	2100	1760	1600	1640
17	1450	1730	4390	1940	2460	3460	5070	3920	2300	1750	1570	1570
18	1450	1680	4000	1930	2490	3620	4850	3710	2200	1760	1560	1530
19	1440	1890	3740	1890	2360	5110	4650	3520	2100	1730	1560	1500
20	1480	4950	3550	1820	2300	10700	4480	3390	2050	1720	1560	1470
21	1650	7850	3440	1770	2250	21500	4500	3400	1990	1710	1540	1460
22	1860	5550	3320	1730	2200	9120	7160	3360	2000	1690	1590	1500
23	2040	6070	3190	1870	2200	6980	9780	3260	2400	1690	1640	2240
24	2000	15600	3050	1930	2150	6220	7850	3220	2200	1680	1640	4120
25	1880	13000	2890	1950	2100	6850	6780	3060	2100	1660	1610	2950
26	1750	6750	2790	2030	2100	8590	6150	2980	2000	1670	1590	2420
27	1660	5770	2770	2090	2100	6810	5660	3250	1940	1690	1550	2090
28	1600	7280	2740	2130	2200	6470	5260	3430	1940	1680	1540	1990
29	1570	7380	2680	2140	2150	8250	4980	3420	1920	1670	1520	1930
30	1540	5900	2590	2120	---	7500	5140	3400	1900	1640	1510	1850
31	1520	---	2480	2080	---	7000	---	3140	---	1640	1490	---
TOTAL	49180	132120	148330	65070	63840	180630	181110	144580	67850	55100	50680	53800
MEAN	1586	4404	4785	2099	2201	5827	6037	4664	2262	1777	1635	1793
MAX	2040	15600	11900	2430	3360	21500	9780	10100	2970	2010	1810	4120
MIN	1330	1500	2480	1730	1600	2100	4480	2980	1900	1640	1490	1410

CAL YR 1983	TOTAL	1305630	MEAN	3577	MAX	74400	MIN	1320
WTR YR 1984	TOTAL	1192290	MEAN	3258	MAX	21500	MIN	1330

07068000 CURRENT RIVER AT DONIPHAN, MO--Continued

WATER QUALITY RECORDS

PERIOD OF RECORD.--July 1969 to July 1975, October 1979 to September 1980, October 1981 to September 1982, October 1983 to current year.

PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: March 1965 to September 1975.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: Maximum, 27.0°C several days during summer months in 1967, 1968, 1969; minimum, 2.5°C January 9, 10, 1970.

WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	TIME	AGENCY ANALYZING SAMPLE (CODE NUMBER) (00028)	STREAM-FLOW, INSTANTANEOUS (CFS) (00061)	SPECIFIC CONDUCTANCE (UMHOS) (00095)	PH (STANDARD UNITS) (00400)	TEMPERATURE (DEG C) (00010)	OXYGEN, DISSOLVED (MG/L) (00300)	OXYGEN, DISSOLVED (PERCENT SATURATION) (00301)	OXYGEN DEMAND, CHEMICAL (LOW LEVEL) (MG/L) (00335)	OXYGEN DEMAND, CHEMICAL (HIGH LEVEL) (MG/L) (00340)	COLIFORM, FECAL, 0.7 UM-MF (COLS./100 ML) (31625)
OCT											
06...	1140	29001	1590	335	7.6	18.5	7.6	79	<.5	--	31
NOV											
07...	1200	29001	3450	292	7.8	14.0	8.6	82	7	--	250
JAN											
03...	1050	29001	2350	289	8.2	6.0	11.2	92	<.5	--	45
25...	0720	29001	1930	305	8.1	6.5	7.0	57	<.5	--	K4
FEB											
14...	1540	29001	3330	282	7.6	12.0	11.0	102	5	--	180
MAR											
06...	1540	29001	6330	273	7.4	10.0	8.6	77	<5	--	K14
APR											
06...	1100	29001	6500	214	7.9	12.0	10.1	91	<.5	--	K6
MAY											
03...	1245	29001	4540	290	7.7	15.5	10.0	99	<.5	--	K13
JUN											
08...	0755	29001	2470	274	7.6	20.5	4.6	50	<.5	--	K13
JUL											
18...	1545	80020	1750	310	8.0	25.0	9.8	115	--	29	K20
AUG											
21...	1540	80020	1540	327	8.1	23.0	9.2	104	--	<19	K20
SEP											
13...	0800	80020	1840	327	7.4	20.0	7.9	84	--	20	34

DATE	HARDNESS (MG/L AS CACO3) (00900)	HARDNESS, NONCARBONATE (MG/L CACO3) (00902)	CALCIUM DISSOLVED (MG/L AS CA) (00915)	MAGNESIUM, DISSOLVED (MG/L AS MG) (00925)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	POTASSIUM, DISSOLVED (MG/L AS K) (00935)	ALKALINITY FIELD (MG/L AS CACO3) (00410)	CARBON DIOXIDE DISSOLVED (MG/L AS CO2) (00405)	SULFATE DISSOLVED (MG/L AS SO4) (00945)	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)
OCT										
06...	180	0	36	23	<2.0	<1.0	184	8.9	3.0	3.0
NOV										
07...	--	--	--	--	--	--	184	5.6	--	--
JAN										
03...	--	--	--	--	--	--	157	1.9	--	--
25...	--	--	--	17	<2.0	<1.0	175	2.7	<10	2.0
FEB										
14...	--	--	--	--	--	--	154	7.5	--	--
MAR										
06...	--	--	--	--	--	--	147	11	--	--
APR										
06...	110	6	22	14	<2.0	<1.0	107	2.6	10	2.0
MAY										
03...	--	--	--	--	--	--	123	4.7	--	--
JUN										
08...	--	--	--	--	--	--	147	7.1	--	--
JUL										
18...	170	5	36	20	2.0	1.0	167	3.2	3.7	2.5
AUG										
21...	--	--	--	--	--	--	179	2.7	--	--
SEP										
13...	--	--	--	--	--	--	169	13	--	--

K--Results based on colony count outside the acceptable range (non-ideal colony count).

07068000 CURRENT RIVER AT DONIPHAN, MO--Continued

DATE	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L) (00530)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	PHOS-PHORUS, TOTAL (MG/L AS P) (00665)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD) (01027)	CADMIUM DIS-SOLVED (UG/L AS CD) (01025)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)
OCT										
06...	.10	180	6	.20	.010	<.050	<2	<2	<5	<5
NOV										
07...	--	--	10	.44	.020	<.050	--	--	--	--
JAN										
03...	--	--	4	.68	.020	<.050	--	--	--	--
25...	.10	166	3	.41	.030	.100	<2	<2	5	<5
FEB										
14...	--	--	14	.44	.010	<.050	--	--	--	--
MAR										
06...	--	--	16	.35	.040	<.050	--	--	--	--
APR										
06...	<.10	130	0	.40	.010	<.050	<2	<2	<5	<5
MAY										
03...	--	--	1	.31	<.010	<.050	--	-	--	--
JUN										
08...	--	--	5	.30	<.010	.050	--	--	--	--
JUL										
18...	<.10	175	<2	.30	.010	<.010	<1	<1	5	<1
AUG										
21...	--	--	10	.20	.020	.010	--	--	--	--
SEP										
13...	--	--	6	.20	<.010	<.010	--	--	--	--

DATE	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB) (01051)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG) (71900)	MERCURY DIS-SOLVED (UG/L AS HG) (71890)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN) (01092)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)
OCT										
06...	190	<20	<5	<5	<20	20	.3	<.2	<10	15
NOV										
07...	--	--	--	--	--	--	--	--	--	--
JAN										
03...	--	--	--	--	--	--	--	--	--	--
25...	60	<20	<5	<5	<20	<20	<.2	<.2	10	<10
FEB										
14...	--	--	--	--	--	--	--	--	--	--
MAR										
06...	--	--	--	--	--	--	--	--	--	--
APR										
06...	360	20	<5	<5	25	<20	<.2	<.2	30	<10
MAY										
03...	--	--	--	--	--	--	--	--	--	--
JUN										
08...	--	--	--	--	--	--	--	--	--	--
JUL										
18...	60	8	8	7	10	14	<.1	<.1	20	17
AUG										
21...	--	--	--	--	--	--	--	--	--	--
SEP										
13...	--	--	--	--	--	--	--	--	--	--

07068250 MIDDLE FORK LITTLE BLACK RIVER AT GRANDIN, MO

LOCATION.--Lat 36°49'50", long 90°49'21", NE¼SW¼SW¼ sec.11, T.25 N., R.2 E., Carter County, Hydrologic Unit 11010008, on downstream side of center pier of Highway 21 bridge in Grandin and 0.6 mi upstream from North Prong Little Black River.

DRAINAGE AREA.--6.85 mi².

WATER DISCHARGE RECORDS

PERIOD OF RECORD.--October 1980 to current year. (discontinued)

GAGE.--Water-stage recorder. Datum of gage is 571.84 ft National Geodetic Vertical Datum of 1929.

REMARKS.--Water discharge records fair.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,080 ft³/s Dec. 3, 1982, gage height, 10.98 ft; no flow at times.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 257 ft³/s Nov. 19, gage height 3.20 ft, no peak above base of 760 ft³/s; no flow many days.

DISCHARGE (CUBIC FEET/SECOND) WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	1.1	.80	.90	2.0	9.7	3.7	.52	.10	.00	.00
2	.00	.10	15	.80	.90	2.7	40	3.7	.52	.10	.00	.00
3	.00	.16	65	.80	.90	3.7	40	4.3	.46	.10	.18	.00
4	.07	.35	37	.77	.90	11	28	4.0	.40	.09	.15	.00
5	.05	1.4	14	.80	.90	18	18	4.0	.35	.16	.10	.00
6	.03	1.1	14	.50	.90	10	13	7.7	.35	.18	.10	.00
7	.02	.76	6.4	.80	.90	7.7	9.7	30	.35	.15	.05	.00
8	.01	.59	3.7	.80	.95	6.0	27	33	.35	.15	.00	.00
9	.00	.59	2.2	.80	1.5	4.6	40	19	.30	.15	.00	.10
10	.00	.67	2.2	.80	1.7	4.0	24	13	.30	.12	.00	.05
11	.00	.52	34	.80	4.0	3.7	16	9.7	.30	.12	.00	.00
12	.00	.52	11	.80	26	3.7	14	7.2	.25	.12	.00	.00
13	.00	.52	6.0	.80	37	4.3	11	6.0	.25	.11	.00	.00
14	.00	.52	4.6	.80	16	3.7	8.6	4.6	.21	.11	.00	.00
15	.00	.52	3.2	.80	11	3.7	7.7	4.0	.18	.10	.00	.00
16	.00	.46	2.0	.80	8.1	3.4	6.4	3.4	.18	.10	.00	.00
17	.00	.40	1.4	.75	6.8	19	5.6	2.9	.15	.10	.00	.00
18	.00	1.8	1.3	.75	5.6	26	4.6	2.7	.10	.10	.00	.00
19	.00	21	1.1	.75	4.3	39	4.3	2.4	.10	.05	.00	.00
20	.00	87	1.0	.70	3.7	34	3.7	2.2	.10	.05	.00	.00
21	.10	23	.95	.70	3.4	20	3.7	2.0	.10	.00	.00	.00
22	.10	16	.90	.70	2.7	13	3.4	1.7	.10	.10	.00	.35
23	.10	89	.90	.80	2.4	9.7	3.2	1.4	.10	.10	.00	.20
24	.10	16	.90	.80	2.2	9.7	2.7	1.2	.10	.10	.00	.15
25	.05	4.3	.85	.85	2.2	11	2.4	.98	.10	.05	.00	.10
26	.03	1.5	.80	.85	2.0	8.6	2.2	1.1	.10	.05	.00	.10
27	.02	40	.80	.85	2.2	7.7	2.2	1.2	.10	.00	.00	.10
28	.00	25	.80	.85	2.0	51	2.2	.98	.10	.06	.00	.10
29	.00	6.8	.80	.85	1.8	30	3.2	.76	.10	.00	.00	.05
30	.00	2.0	.80	.85	---	18	3.7	.67	.10	.00	.00	.05
31	.00	---	.80	.85	---	13	---	.59	---	.00	.00	---
TOTAL	.68	342.58	235.50	24.67	153.85	401.9	360.2	180.08	6.72	2.68	.58	1.35
MEAN	.02	11.4	7.60	.80	5.31	13.0	12.0	5.81	.22	.09	.02	.04
MAX	.10	89	65	.85	37	51	40	33	.52	.18	.18	.35
MIN	.00	.00	.80	.70	.90	2.0	2.2	.59	.10	.00	.00	.00

CAL YR 1983	TOTAL	1631.74	MEAN	4.47	MAX	99	MIN	.00
WTR YR 1984	TOTAL	1710.79	MEAN	4.67	MAX	89	MIN	.00

07068250 MIDDLE FORK LITTLE BLACK RIVER AT GRANDIN, MO--Continued

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: October 1980 to current year.

INSTRUMENTATION.--Water temperature recorder since October 1980.

REMARKS.--Water temperatures are not published for periods of no flow and when the temperature probe was out of the water.

EXTREMES FOR PERIOD OF RECORD.--
WATER TEMPERATURE: Maximum, 28.5°C July 20, 1981; minimum, 0.0°C on many days.

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	---	---	---	---	---	---	8.0	6.0	6.5	---	---	---
2	---	---	---	15.5	14.0	15.0	8.0	5.5	6.5	---	---	---
3	---	---	---	16.0	14.0	15.0	8.5	8.0	8.5	---	---	---
4	---	---	---	15.0	10.5	13.5	8.5	8.5	8.5	1.0	1.0	1.0
5	---	---	---	12.0	10.0	11.0	9.5	8.5	9.0	1.0	.5	1.0
6	---	---	---	11.5	9.0	10.5	9.5	6.5	8.5	1.5	1.0	1.0
7	---	---	---	14.0	11.0	12.0	7.0	5.0	6.0	1.5	1.0	1.0
8	---	---	---	13.0	10.5	11.5	6.5	5.5	6.0	2.0	1.0	1.5
9	---	---	---	15.5	13.0	14.0	7.0	5.0	6.0	2.0	1.0	1.5
10	---	---	---	13.5	10.5	11.5	7.0	4.5	5.5	1.5	.5	1.0
11	---	---	---	10.5	8.5	9.5	9.0	7.0	8.5	1.0	.0	.5
12	---	---	---	9.5	7.0	8.5	8.5	7.0	8.0	1.0	.0	.5
13	---	---	---	10.5	8.5	9.5	8.0	8.0	8.0	1.0	.5	1.0
14	---	---	---	10.5	8.5	9.5	7.0	5.0	6.0	1.0	.5	.5
15	---	---	---	10.5	10.0	10.5	5.0	4.0	4.5	1.0	.5	.5
16	---	---	---	11.0	8.5	10.0	4.0	2.0	3.5	1.0	.0	.5
17	---	---	---	11.0	7.0	9.0	2.0	1.5	2.0	.0	.0	.0
18	---	---	---	13.0	10.0	11.0	2.0	1.5	1.5	.0	.0	.0
19	---	---	---	14.5	13.0	13.5	1.5	1.0	1.0	1.0	.0	.5
20	---	---	---	13.5	11.5	13.0	1.0	.5	.5	.0	.0	.0
21	18.5	16.5	17.0	13.0	10.0	11.5	.5	.5	.5	.0	.0	.0
22	18.0	15.0	16.0	14.0	12.0	13.0	1.5	1.5	.5	.0	.0	.0
23	15.0	14.0	14.5	14.5	11.5	13.5	1.5	.5	1.0	.0	.0	.0
24	15.0	13.5	14.0	11.5	9.5	10.5	2.0	.5	1.5	.0	.0	.0
25	---	---	---	10.5	8.5	9.5	3.0	-0.5	1.0	.0	-0.5	.0
26	---	---	---	11.5	9.5	10.5	2.0	.5	1.0	.0	-0.5	.0
27	---	---	---	11.5	11.5	11.5	.5	.0	.0	.5	-0.5	.0
28	---	---	---	11.5	9.5	10.5	.5	.0	.0	1.0	-0.5	.0
29	---	---	---	9.5	8.5	9.0	1.5	.0	.5	2.0	-0.5	.5
30	---	---	---	9.5	7.0	9.0	---	---	---	1.0	.0	.5
31	---	---	---	---	---	---	---	---	---	1.0	-0.5	.0
MONTH	18.5	13.5	15.5	16.0	7.0	11.5	9.5	-0.5	4.0	2.0	-0.5	.5

07068250 MIDDLE FORK LITTLE BLACK RIVER AT GRANDIN, MO--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	2.0	.0	1.0	3.5	.5	2.0	11.5	6.0	9.0	16.5	13.0	15.0
2	2.0	.5	1.5	5.0	1.5	3.5	10.5	8.0	9.5	16.5	15.5	16.0
3	4.5	1.5	3.5	5.5	3.0	4.5	13.5	10.0	11.5	16.5	15.5	16.0
4	4.0	1.0	2.0	6.5	5.5	6.0	11.0	9.0	10.0	18.0	14.0	16.0
5	1.5	.0	1.0	6.5	5.5	6.0	13.5	9.0	11.0	16.0	15.0	15.5
6	.5	-0.5	.0	6.5	4.0	5.0	14.0	8.0	11.0	15.5	15.0	15.0
7	.0	-0.5	.0	6.0	2.0	4.0	10.5	9.0	10.0	15.0	15.0	15.0
8	1.0	-0.5	.0	4.5	3.0	4.0	11.0	10.0	10.5	17.0	13.5	15.0
9	1.0	.0	.5	4.5	1.0	3.0	11.0	11.0	11.0	16.5	12.0	14.5
10	6.0	1.0	4.0	5.0	3.0	4.0	11.5	11.0	11.0	19.0	12.0	15.5
11	9.5	5.5	8.0	6.5	1.5	4.0	14.5	10.5	12.0	20.0	15.0	18.0
12	9.5	7.0	8.5	4.0	3.0	3.5	14.5	12.0	13.5	20.5	16.5	19.0
13	7.0	6.0	6.5	7.0	4.0	5.5	15.0	10.5	13.0	21.5	17.0	19.5
14	6.5	4.5	5.5	9.0	4.0	6.0	13.5	11.0	12.0	20.5	17.0	19.0
15	8.0	4.5	6.0	11.0	6.0	9.0	12.0	11.0	11.5	18.5	15.0	16.5
16	9.0	7.0	8.0	10.0	8.0	9.0	12.0	10.5	11.5	19.0	14.5	16.5
17	9.0	6.5	8.0	8.5	7.0	8.0	12.0	10.0	11.0	19.5	13.5	16.5
18	8.5	6.0	7.0	7.0	7.0	7.0	13.0	8.5	11.0	21.5	14.0	18.0
19	8.0	5.5	6.5	8.5	7.0	8.0	14.0	11.0	13.0	23.0	15.5	19.5
20	6.5	5.5	6.0	8.5	7.0	8.0	13.5	11.5	12.0	21.0	19.0	20.0
21	6.5	3.0	5.5	8.5	6.5	7.0	15.0	11.5	13.5	21.5	19.0	20.0
22	6.5	3.0	5.0	10.5	5.5	8.5	15.0	13.0	14.0	23.5	18.5	21.0
23	7.0	3.5	5.5	9.5	6.5	8.5	13.0	11.0	11.0	22.0	18.5	20.5
24	6.5	4.5	6.0	9.5	8.5	9.0	15.0	9.0	13.0	21.5	15.0	19.0
25	6.0	3.0	4.5	9.0	8.5	9.0	16.5	12.0	14.5	24.0	16.5	21.0
26	6.5	5.5	6.0	9.5	8.5	9.0	18.0	15.0	18.0	21.5	18.0	19.5
27	4.0	2.0	3.5	11.5	8.5	10.0	20.5	17.0	19.0	18.5	17.0	18.0
28	2.0	1.5	2.0	11.5	9.5	10.5	19.0	15.0	17.0	21.5	16.5	19.5
29	3.0	1.0	2.0	12.0	8.5	10.0	19.0	16.5	18.0	19.0	14.5	16.5
30	---	---	---	12.0	8.5	10.0	18.0	14.5	16.0	19.5	13.5	16.5
31	---	---	---	9.0	8.5	8.5	---	---	---	20.5	13.0	17.0
MONTH	9.5	-0.5	4.5	12.0	.5	7.0	20.5	6.0	12.5	24.0	12.0	17.5

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	22.0	14.5	19.0	---	---	---				---	---	---
2	24.5	16.0	20.5	---	---	---				---	---	---
3	24.0	19.5	21.5	---	---	---				---	---	---
4	26.0	19.5	23.0	27.0	24.5	25.5				---	---	---
5	24.5	19.0	21.5	26.5	23.0	25.0				---	---	---
6	26.0	21.5	24.0	---	---	---				---	---	---
7	25.0	21.5	23.5	24.5	23.0	24.0				---	---	---
8	27.0	23.5	25.0	27.0	20.5	24.5				---	---	---
9	---	---	---	---	---	---				---	---	---
10	---	---	---	---	---	---				---	---	---
11	---	---	---	---	---	---				---	---	---
12	---	---	---	---	---	---				---	---	---
13	---	---	---	---	---	---				---	---	---
14	---	---	---	---	---	---				---	---	---
15	---	---	---	---	---	---				---	---	---
16	---	---	---	---	---	---				---	---	---
17	---	---	---	---	---	---				---	---	---
18	---	---	---	---	---	---				---	---	---
19	---	---	---	---	---	---				---	---	---
20	---	---	---	---	---	---				---	---	---
21	---	---	---	---	---	---				---	---	---
22	---	---	---	---	---	---				23.0	20.5	21.5
23	---	---	---	---	---	---				26.0	23.0	24.5
24	---	---	---	---	---	---				27.0	25.0	26.0
25	---	---	---	---	---	---				---	---	---
26	---	---	---	---	---	---				---	---	---
27	---	---	---	---	---	---				---	---	---
28	---	---	---	---	---	---				---	---	---
29	---	---	---	---	---	---				---	---	---
30	---	---	---	---	---	---				---	---	---
31	---	---	---	---	---	---				---	---	---
MONTH	27.0	14.5	22.5	27.0	20.5	25.0				27.0	20.5	24.0
YEAR	27.0	-0.5	9.5									

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07068300 NORTH PRONG LITTLE BLACK RIVER NEAR GRANDIN, MO

LOCATION.--Lat 36°46'48", long 90°48'01", SE¼NE¼NW¼ sec. 36, T.25 N., R.2 E., Ripley County, Hydrologic Unit 11010008, on the right bank, 700 ft upstream from Highway NN and 5.4 mi above South Prong Little Black River.

DRAINAGE AREA.--39.4 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April 1980 to current year. (discontinued)

GAGE.--Water-stage recorder. Datum of gage is 468.61 ft National Geodetic Vertical Datum of 1929.

REMARKS.--Water discharge records good.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 31,800 ft^3/s Dec. 3, 1982, gage height, 17.32 ft; no flow at times.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 976 ft^3/s Nov. 23, gage height, 5.17 ft, no peak above base of 1,000 ft^3/s; minimum daily, 1.3 ft^3/s Oct. 1-3, Sept. 2.

DISCHARGE (CUBIC FEET/SECOND) WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.3	4.6	51	12	17	19	61	23	12	2.4	2.9	1.4
2	1.3	7.8	111	12	18	22	64	22	9.9	2.5	2.5	1.3
3	1.3	16	416	12	19	26	321	22	9.4	2.4	3.5	1.9
4	10	80	365	12	16	49	177	22	8.9	3.8	6.1	1.9
5	8.8	45	140	13	15	109	98	20	8.1	14	4.1	1.9
6	3.0	30	134	14	14	78	76	28	8.0	5.1	3.3	1.9
7	2.7	21	88	13	14	62	64	180	7.2	4.8	3.2	1.7
8	2.4	17	68	13	13	53	152	175	7.1	4.2	3.0	1.7
9	2.1	15	56	12	14	43	264	89	6.4	3.6	2.5	12
10	2.1	17	52	13	14	40	130	68	5.8	3.3	2.5	7.5
11	2.1	14	247	12	15	38	95	57	5.8	2.9	3.0	5.6
12	4.0	12	142	12	294	37	78	48	5.1	3.0	2.8	5.8
13	3.5	11	90	12	298	39	66	43	4.7	2.9	2.3	5.6
14	3.0	10	79	12	121	37	58	39	4.7	2.5	2.3	3.9
15	2.8	13	64	12	78	36	54	35	4.7	2.4	2.3	3.5
16	2.7	9.9	49	12	66	35	48	34	4.3	2.5	2.2	3.5
17	2.7	9.2	40	11	55	91	43	30	4.0	2.3	2.1	3.5
18	2.7	8.7	36	11	48	137	39	28	4.0	2.3	2.1	3.8
19	2.8	45	31	10	42	253	36	26	3.9	2.1	2.1	4.0
20	3.4	338	28	10	36	245	34	23	3.9	1.8	1.7	4.0
21	11	94	30	9.6	32	106	33	23	4.1	1.7	1.7	4.0
22	11	72	26	9.5	27	77	32	22	4.4	1.7	3.9	5.3
23	5.5	487	21	16	24	62	28	18	4.0	1.7	3.8	7.2
24	4.7	192	18	15	21	61	26	16	3.5	1.5	2.7	7.2
25	4.6	84	17	15	19	61	24	15	3.2	1.5	2.	13
26	4.6	62	17	17	18	54	23	17	3.0	4.9	2.1	19
27	4.4	204	18	18	22	51	22	17	3.0	4.1	2.1	10
28	4.4	225	16	19	20	290	21	19	2.9	2.5	2.1	6.0
29	4.5	90	14	19	19	188	24	17	2.5	2.5	2.1	3.0
30	4.5	65	13	18	---	94	23	13	2.5	2.5	1.9	3.0
31	4.6	---	13	17	---	72	---	13	---	2.2	1.6	---
TOTAL	128.5	2299.2	2490	413.1	1409	2565	2216	1202	161.0	97.6	82.6	154.1
MEAN	4.15	76.6	80.3	13.3	48.6	82.7	73.9	38.8	5.37	3.15	2.66	5.14
MAX	11	487	416	19	298	290	321	180	12	14	6.1	19
MIN	1.3	4.6	13	9.5	13	19	21	13	2.5	1.5	1.6	1.3

CAL YR 1983 TOTAL 12109.3 MEAN 33.2 MAX 487 MIN 1.0

WTR YR 1984 TOTAL 13218.1 MEAN 36.1 MAX 487 MIN 1.3

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07068300 NORTH PRONG LITTLE BLACK RIVER NEAR GRANDIN, MO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--August 1980 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS) (00061)	SPE-CIFIC CON-DUCT-ANCE (UMHOS) (00095)	PH (STAND-ARD UNITS) (00400)	TEMPER-ATURE (DEG C) (00010)	TUR-BID-ITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./100 ML) (31625)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L) (00530)
OCT 06...	1520	3.2	210	7.1	19.5	1.3	8.4	89	140	180	<1
DEC 27...	1155	18	126	7.3	1.0	.50	12.0	98	K13	K8	4
FEB 14...	1020	115	70	7.7	6.0	4.0	10.6	86	48	170	12
APR 17...	1010	45	87	7.3	11.5	1.2	10.6	95	28	64	7
JUN 07...	1405	7.2	152	7.2	23.5	.70	6.8	78	88	540	<2
JUL 19...	0820	2.1	212	7.2	19.5	1.1	7.4	78	110	680	11
SEP 12...	1500	5.6	206	7.4	25.0	1.1	8.4	99	79	100	4

DATE	NITRO-GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	NITRO-GEN, TOTAL (MG/L AS NO3) (71887)	PHOS-PHORUS, TOTAL (MG/L AS P) (00665)	PHOS-PHORUS TOTAL (MG/L AS PO4) (71886)	PHOS-PHORUS, ORTHO, TOTAL (MG/L AS P) (70507)
OCT 06...	<.020	<.10	.020	.58	.60	--	--	<.010	--	.020
DEC 27...	<.010	1.2	<.010	--	<.20	--	--	.010	.03	.010
FEB 14...	<.010	.60	.160	.04	.20	.80	3.5	.010	.03	.010
APR 17...	<.010	.30	.020	--	<.20	--	--	<.010	--	.020
JUN 07...	<.010	.20	.020	.48	.50	.70	3.1	.010	--	<.010
JUL 19...	<.010	<.10	.020	.38	.40	--	--	<.010	--	<.010
SEP 12...	<.010	<.10	<.010	--	<.20	--	--	.010	--	<.010

K--Results based on colony count outside the acceptable range (non-ideal colony count).

07068380 LITTLE BLACK RIVER NEAR GRANDIN, MO

LOCATION.--Lat 36°44'47", long 90°44'06", in SW¼SW¼NW¼ sec. 10, T.24 N., R.3 E., Ripley County, Hydrologic Unit 11010008, on the downstream side of center bridge pier on Highway K, 7.8 mi southeast of Grandin and 0.1 mi below the confluence of South Prong Little Black River and North Prong Little Black River.

DRAINAGE AREA.--79.5 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1980 to current year. (discontinued)

GAGE.--Water-stage recorder. Datum of gage is 400.44 ft National Geodetic Vertical Datum of 1929.

REMARKS.--Water discharge records good.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 41,800 ft³/s Dec. 3, 1982, gage height, 13.78 ft; minimum, 4.8 ft³/s Sept. 2, 1984.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 2,000 ft³/s and maximum (*):

Date	Time	Discharge (ft³/s)	Gage height (ft)
Nov. 23	1430	2,650	6.38
Dec. 3	2100	*2,690	6.40

Minimum discharge, 4.8 ft³/s Sept. 2.

DISCHARGE (CUBIC FEET/SECOND) WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.2	14	88	29	40	46	130	35	21	8.9	8.7	5.4
2	6.9	22	233	28	42	48	116	34	20	8.9	8.2	5.2
3	6.6	34	1120	27	44	52	793	37	19	8.4	9.5	6.2
4	34	144	972	28	42	77	394	35	18	10	18	5.8
5	31	63	317	32	40	184	210	33	18	17	15	5.4
6	15	49	267	35	36	136	147	45	17	15	10	5.4
7	12	42	159	33	35	113	113	333	16	13	8.9	6.2
8	10	35	121	30	34	93	242	469	17	12	8.4	6.7
9	9.5	34	93	31	36	76	563	210	15	11	8.0	16
10	9.1	39	88	32	37	69	307	145	15	9.8	8.2	11
11	9.3	33	493	29	37	63	190	114	14	9.1	9.1	10
12	14	30	335	28	714	63	154	93	13	8.9	8.6	9.1
13	13	30	178	28	682	66	129	78	13	8.2	7.8	8.4
14	11	30	150	28	280	60	101	71	13	8.0	7.8	8.0
15	10	31	118	27	168	59	85	60	13	8.0	7.6	7.8
16	10	27	88	26	135	57	76	55	12	9.1	7.4	7.8
17	10	26	73	26	107	186	66	51	12	8.4	6.7	8.4
18	10	25	64	26	90	296	59	47	11	8.0	6.7	9.1
19	11	86	50	26	78	492	54	43	11	7.6	7.1	9.1
20	11	663	50	26	67	558	50	40	12	7.2	7.1	9.3
21	25	172	55	26	61	261	50	40	12	7.1	6.9	9.5
22	33	122	48	26	57	195	48	38	12	6.9	9.2	12
23	20	1540	45	43	52	133	45	33	12	6.5	8.2	12
24	17	397	35	38	51	113	42	30	11	6.3	7.1	11
25	15	163	35	40	48	113	39	28	11	6.2	6.3	13
26	15	126	37	42	45	109	37	29	11	8.0	6.0	18
27	14	427	40	43	52	99	32	33	10	12	5.8	11
28	14	549	37	44	50	566	28	35	10	8.9	6.3	6.6
29	13	188	35	44	46	411	25	27	10	8.4	6.3	7.8
30	13	116	33	43	---	199	35	25	9.3	7.6	5.8	7.6
31	14	---	31	40	---	140	---	24	---	7.6	5.5	---
TOTAL	443.6	5259	5498	1004	3206	5127	4380	2370	408.3	282.0	252.2	270.8
MEAN	14.3	175	177	32.4	111	165	146	76.5	13.6	9.10	8.14	9.03
MAX	34	1540	1120	44	714	566	793	469	21	17	18	18
MIN	6.6	14	31	26	34	46	25	24	9.3	6.2	5.5	5.2

CAL YR 1983	TOTAL 27607.0	MEAN	75.6	MAX	1540	MIN	5.1
WTR YR 1984	TOTAL 28500.9	MEAN	77.9	MAX	1540	MIN	5.2

07068380 LITTLE BLACK RIVER NEAR GRANDIN, MO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--August 1980 to current year.

PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: August 1980 to current year.
SUSPENDED-SEDIMENT DISCHARGE: July 1980 to current year.

INSTRUMENTATION.--Water temperature recorder since August 1980.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: Maximum, 31.5°C many days in July and August, 1983; minimum 0.0°C January 18 and 19, 1982.
SUSPENDED-SEDIMENT CONCENTRATIONS: Maximum daily mean, 330 mg/L January 31, 1982; minimum daily mean, <1 mg/L on many days.
SUSPENDED-SEDIMENT LOADS: Maximum daily, 8,070 tons December 3, 1982; minimum 0.0 tons on many days.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURE: Maximum, 28.0°C many days in June and July; minimum, 1.5°C January 3.
SUSPENDED-SEDIMENT CONCENTRATIONS: Maximum daily mean, 330 mg/L December 2; minimum daily, <1 mg/L on many days.
SUSPENDED-SEDIMENT LOADS: Maximum daily 451 tons December 3, minimum daily, 0.0 tons on many days.

WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS) (00061)	SPECIFIC CONDUCTANCE (UMHOS) (00095)	PH (STANDARD UNITS) (00400)	TEMPERATURE (DEG C) (00010)	TURBIDITY (NTU) (00076)	OXYGEN, DISSOLVED (MG/L) (00300)	OXYGEN, DISSOLVED (PERCENT SATURATION) (00301)	COLIFORM, FECAL, 0.7 UM-MF (COLS./100 ML) (31625)	STREPTOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MG/L) (00530)
OCT											
06...	1430	14	270	7.3	20.0	1.6	7.6	81	100	170	<1
DEC											
27...	1330	61	180	7.3	1.5	1.0	12.2	88	K14	40	6
FEB											
14...	1120	293	82	6.8	7.0	4.9	12.0	99	88	140	14
APR											
17...	1115	66	122	7.5	12.0	1.1	9.2	84	K8	K13	6
JUN											
07...	1310	18	214	7.5	24.0	1.1	7.0	81	K4	26	5
JUL											
19...	0720	7.6	278	7.5	20.5	2.0	5.8	63	K40	940	4
SEP											
12...	1350	9.5	280	7.1	22.5	.90	7.3	82	K16	28	2

DATE	NITROGEN, NITRITE TOTAL (MG/L AS N) (00615)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITROGEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITROGEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITROGEN, TOTAL (MG/L AS N) (00600)	NITROGEN, TOTAL (MG/L AS NO3) (71887)	PHOSPHORUS, TOTAL (MG/L AS P) (00665)	PHOSPHORUS TOTAL (MG/L AS PO4) (71886)	PHOSPHORUS, ORTHO, TOTAL (MG/L AS P) (70507)
OCT										
06...	<.020	<.10	.040	.56	.60	--	--	<.010	--	<.010
DEC										
27...	<.010	.80	<.010	--	<.20	-	--	.010	.03	.010
FEB										
14...	<.010	.40	.160	.24	.40	.80	3.5	.030	.09	<.010
APR										
17...	<.010	.20	.020	.38	.40	.60	2.7	.010	.03	.020
JUN										
07...	<.010	<.10	.030	.57	.60	--	--	.010	--	<.010
JUL										
19...	<.010	<.10	.020	.18	.20	--	--	<.010	--	<.010
SEP										
12...	<.010	<.10	<.010	--	<.20	--	--	<.010	--	<.010

K--Results based on colony count outside the acceptable range (non-ideal colony count).

07068380 LITTLE BLACK RIVER NEAR GRANDIN, MO--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	21.5	20.0	20.5	15.0	14.0	14.5	8.5	7.0	8.0	3.0	2.0	2.0
2	21.5	20.0	20.5	15.5	15.0	15.0	7.0	6.5	6.5	2.0	2.0	2.0
3	23.0	20.5	21.5	16.0	15.5	15.5	8.0	7.0	8.0	2.0	1.5	2.0
4	23.0	21.5	22.0	16.5	16.0	16.5	8.0	8.0	8.0	3.0	3.0	3.0
5	21.5	21.0	21.0	15.5	13.5	14.5	9.0	8.0	8.5	3.5	3.0	3.0
6	22.0	19.5	20.5	14.0	12.0	13.0	9.5	8.0	9.0	4.0	3.0	3.5
7	20.5	19.5	20.0	14.0	13.0	13.5	8.0	6.0	6.5	4.0	3.5	4.0
8	20.5	18.5	19.5	14.0	13.0	13.5	7.0	6.5	7.0	4.5	3.5	4.0
9	20.5	19.5	20.0	14.5	13.5	14.0	8.0	7.0	7.0	4.5	4.0	4.5
10	20.0	18.5	19.5	14.0	11.5	13.0	8.0	7.0	7.0	5.0	4.5	4.5
11	20.0	19.0	19.0	11.5	10.0	11.0	9.5	7.0	8.5	4.5	3.0	4.0
12	19.0	18.5	18.5	10.0	9.0	9.5	9.5	9.0	9.0	4.0	3.0	3.5
13	18.5	16.0	17.0	10.0	9.0	9.5	9.0	9.0	9.0	4.0	3.5	4.0
14	15.5	14.5	15.0	9.5	8.5	9.0	9.0	8.0	8.5	4.5	4.0	4.0
15	16.0	14.5	15.5	9.5	9.0	9.0	7.0	6.0	6.5	4.0	3.5	4.0
16	16.0	14.5	15.0	9.5	9.0	9.5	6.5	5.5	6.0	4.0	4.0	4.0
17	16.0	15.5	15.5	9.5	8.0	9.0	5.5	4.0	5.0	4.0	3.5	4.0
18	16.0	16.0	16.0	10.0	9.5	9.5	4.5	4.5	4.5	3.5	3.5	3.5
19	16.0	16.0	16.0	12.0	10.5	11.0	4.5	3.5	4.0	5.5	3.5	4.5
20	17.0	16.0	16.5	12.0	12.0	12.0	4.0	3.0	3.5	5.0	3.5	4.5
21	18.0	17.0	17.0	12.0	10.0	11.0	3.5	3.5	3.5	6.0	3.5	4.5
22	18.0	17.0	18.0	12.0	11.0	11.5	4.0	3.5	3.5	5.0	3.5	4.0
23	17.0	16.5	16.5	13.5	12.0	13.0	4.0	3.5	4.0	3.5	3.5	3.5
24	16.5	16.0	16.0	13.0	10.0	11.0	---	---	---	3.5	3.5	3.5
25	16.0	15.0	15.5	10.0	8.5	9.0	---	---	---	4.0	3.5	4.0
26	15.5	13.5	14.5	10.0	9.0	9.5	---	---	---	4.0	4.0	4.0
27	14.5	13.0	13.5	11.5	10.0	10.5	---	---	---	4.5	4.0	4.0
28	14.0	12.0	13.5	11.0	9.5	10.5	2.0	2.0	2.0	5.0	4.0	4.5
29	14.5	13.5	14.0	9.5	8.0	8.5	4.0	2.0	3.0	5.5	4.5	5.0
30	15.0	13.5	14.0	8.5	8.5	8.5	3.5	1.5	3.0	5.5	5.5	5.5
31	15.0	14.0	14.5	---	---	---	4.5	2.0	3.5	5.5	4.0	5.0
MONTH	23.0	12.0	17.5	16.5	8.0	11.5	9.5	1.5	6.0	6.0	1.5	4.0

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	5.5	4.0	5.0	6.0	4.5	5.5	11.5	8.5	10.0	---	---	---
2	5.5	5.0	5.0	8.0	5.0	6.5	11.0	10.0	10.5	18.0	16.5	17.0
3	6.5	5.5	6.0	8.5	6.0	7.0	11.5	10.5	11.0	16.5	16.0	16.5
4	6.0	5.5	6.0	8.5	8.5	8.5	11.5	10.0	10.5	18.0	15.0	15.5
5	6.0	4.5	5.5	8.5	8.0	8.5	11.5	9.0	10.5	18.0	16.5	17.0
6	4.5	3.0	3.5	8.0	8.0	8.0	13.5	10.0	11.5	16.0	15.5	15.5
7	4.0	3.0	3.5	8.0	5.5	6.5	13.5	11.0	12.0	15.0	15.0	15.0
8	4.5	3.5	4.0	8.0	6.0	6.5	11.5	11.0	11.0	14.0	14.0	14.5
9	4.5	4.0	4.5	7.0	5.0	6.0	11.0	11.0	11.0	15.5	13.5	14.5
10	7.0	4.5	6.0	6.5	6.0	6.0	11.0	11.0	11.0	16.5	13.5	15.0
11	9.5	7.0	8.5	8.0	5.5	6.5	14.0	11.0	12.0	18.5	15.5	16.5
12	9.5	9.5	9.5	7.0	6.0	6.5	14.5	13.5	14.0	19.5	17.0	18.5
13	9.5	8.0	8.5	7.0	6.0	6.5	15.5	12.0	14.0	19.5	18.0	19.0
14	9.0	7.0	9.0	8.5	6.5	7.0	15.5	13.5	14.5	20.5	19.0	20.0
15	9.5	8.5	9.0	10.0	8.5	9.0	13.5	13.0	13.0	20.5	18.0	18.5
16	11.0	10.0	10.5	11.5	10.0	10.5	13.0	12.0	13.0	18.5	16.0	17.0
17	11.0	10.0	10.5	11.0	9.5	10.0	14.0	11.5	3.0	18.5	15.5	17.0
18	11.0	10.0	10.5	9.5	8.5	9.0	15.0	11.5	13.5	19.5	16.0	18.0
19	9.5	9.0	9.5	9.0	8.0	8.5	16.5	14.0	15.0	20.5	18.0	19.5
20	9.5	9.0	9.5	9.0	8.5	8.5	16.5	14.5	15.5	20.5	20.0	20.0
21	10.5	9.0	9.0	8.5	8.0	8.5	15.0	13.5	14.0	20.5	20.0	20.0
22	9.0	8.5	8.5	9.5	7.0	8.5	16.0	15.0	15.5	21.5	20.0	20.5
23	9.5	7.0	8.5	10.5	8.5	9.5	15.5	13.5	14.5	23.0	20.5	21.5
24	9.5	9.0	9.5	11.0	10.5	10.5	16.0	11.5	14.0	23.0	19.5	21.0
25	9.0	6.5	8.0	10.5	10.5	10.5	17.0	15.0	16.0	23.0	20.0	21.0
26	9.0	8.5	8.5	10.5	10.0	10.5	18.0	16.0	17.0	23.0	20.5	21.5
27	8.5	6.0	7.0	11.5	10.5	11.0	---	---	---	20.5	19.5	20.0
28	5.5	5.0	5.5	11.5	10.0	11.0	---	---	---	21.0	19.0	20.0
29	6.0	4.5	5.0	11.0	9.0	10.0	---	---	---	20.5	19.0	19.5
30	---	---	---	11.5	10.0	11.0	---	---	---	20.0	17.0	19.0
31	---	---	---	11.5	10.0	10.5	---	---	---	20.5	17.0	19.0
MONTH	11.0	3.0	7.5	11.5	4.5	8.5	18.0	8.5	13.0	23.0	13.5	16.5

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07068380 LITTLE BLACK RIVER NEAR GRANDIN, MO--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	21.5	18.0	20.0	24.5	22.0	23.5	24.0	22.0	23.0	24.5	22.0	23.5
2	23.0	19.5	21.0	25.0	23.0	24.0	25.0	23.0	24.0	25.0	23.5	24.0
3	24.0	22.0	23.0	25.5	23.5	24.5	24.5	23.5	24.0	25.0	23.0	24.0
4	24.5	22.0	23.5	25.5	24.5	25.0	24.5	23.0	23.5	23.0	21.0	21.5
5	24.5	22.0	23.5	25.0	24.0	24.5	25.0	23.5	24.0	22.0	20.0	21.0
6	25.0	23.5	24.0	26.0	24.0	25.0	---	---	---	22.0	20.0	21.0
7	25.0	24.0	24.5	26.0	24.5	25.0	---	---	---	22.0	20.5	21.5
8	25.5	23.5	24.5	25.5	23.5	24.5	---	---	---	22.0	20.5	21.0
9	25.5	24.0	25.0	28.0	24.5	26.0	---	---	---	21.5	20.5	21.0
10	26.0	24.0	25.0	28.0	25.5	26.5	---	---	---	22.0	21.0	21.5
11	26.0	24.5	25.5	28.0	26.5	27.0	---	---	---	22.0	21.5	22.0
12	26.5	24.5	25.5	28.0	26.0	27.0	---	---	---	23.5	21.5	22.0
13	27.0	25.0	25.0	28.0	24.5	26.0	---	---	---	24.0	22.0	23.0
14	27.0	25.0	26.0	26.5	24.5	25.5	---	---	---	24.0	23.0	23.5
15	28.0	25.5	26.5	27.0	26.0	26.5	---	---	---	24.0	21.5	22.0
16	28.0	25.5	26.5	27.0	26.0	26.5	---	---	---	21.5	19.0	19.5
17	28.0	25.5	26.5	27.0	25.5	26.0	---	---	---	19.5	17.0	18.5
18	27.0	25.5	26.0	26.0	24.0	25.0	---	---	---	19.5	18.0	19.0
19	26.5	25.5	26.0	25.5	23.5	24.5	---	---	---	19.5	18.0	19.0
20	26.0	24.5	25.5	25.5	23.5	24.5	---	---	---	19.5	17.0	18.5
21	26.5	25.0	26.0	25.5	24.0	24.5	24.0	22.0	23.5	19.5	17.0	18.5
22	27.0	25.0	26.0	25.5	24.0	25.0	24.0	23.0	23.5	19.5	19.0	19.0
23	27.0	25.5	26.0	26.0	24.5	25.0	23.5	21.5	22.0	19.5	19.0	19.0
24	27.0	25.0	26.0	26.0	24.0	25.0	23.5	20.5	22.0	20.5	19.5	20.0
25	27.0	24.0	25.0	26.5	24.5	25.5	22.0	20.0	21.0	20.5	20.5	20.5
26	26.0	24.0	25.0	26.5	25.0	26.0	22.0	20.5	21.0	20.5	18.0	19.0
27	25.5	24.0	24.5	25.0	24.0	24.5	23.0	20.5	21.5	18.5	16.5	17.0
28	26.0	24.0	25.0	24.5	23.0	24.0	24.5	22.0	23.5	16.0	15.0	15.5
29	25.5	24.0	25.0	24.5	23.0	24.0	25.5	23.5	24.5	16.0	15.5	15.5
30	25.0	23.0	24.0	24.5	22.0	23.5	25.5	23.5	24.5	15.5	14.0	14.5
31	---	---	---	24.5	23.0	23.5	25.5	23.5	24.5	---	---	---
MONTH	28.0	18.0	25.0	28.0	22.0	25.0	25.5	20.0	23.0	25.0	14.0	20.0
YEAR	28.0	1.5	14.5									

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07068380 LITTLE BLACK RIVER NEAR GRANDIN, MO--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		OCTOBER			NOVEMBER			DECEMBER	
1	7.2	2	.04	14	1	.04	88	35	8.3
2	6.9	3	.06	22	6	.36	233	330	294
3	6.6	4	.07	34	9	.83	1120	149	451
4	34	13	1.2	144	76	33	972	11	29
5	31	11	.92	63	4	.68	317	8	6.8
6	15	4	.16	49	3	.40	267	6	4.3
7	12	3	.10	42	6	.68	159	8	3.4
8	10	1	.03	35	9	.85	121	8	2.6
9	9.5	0	.00	34	6	.55	93	5	1.3
10	9.1	1	.02	39	2	.21	88	5	1.4
11	9.3	5	.13	33	2	.18	493	23	31
12	14	12	.45	30	3	.24	335	19	17
13	13	11	.39	30	3	.24	178	10	4.8
14	11	8	.24	30	2	.16	150	3	1.2
15	10	7	.19	31	1	.08	118	2	.64
16	10	5	.13	27	2	.15	88	1	.24
17	10	5	.13	26	2	.14	73	1	.20
18	10	6	.16	25	2	.13	64	1	.17
19	11	6	.18	86	49	16	60	2	.32
20	11	6	.18	663	55	118	50	2	.27
21	25	14	.94	172	8	3.7	55	2	.30
22	33	8	.71	122	10	3.3	48	2	.26
23	20	1	.05	1540	42	162	45	2	.24
24	17	3	.14	397	12	13	35	2	.20
25	15	4	.16	163	6	2.6	35	2	.19
26	15	3	.12	126	5	1.7	37	2	.20
27	14	2	.08	427	18	21	40	4	.43
28	14	1	.04	549	4	45	37	5	.50
29	13	1	.04	188	3	1.5	35	5	.47
30	13	1	.04	118	8	2.6	33	5	.45
31	14	1	.04	---	---	---	31	4	.33
TOTAL	443.6	---	7.14	5259	---	439.12	5498	---	869.83

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		JANUARY			FEBRUARY			MARCH	
1	29	4	.31	40	2	.22	46	1	.12
2	28	4	.30	42	2	.23	48	1	.13
3	27	4	.29	44	2	.24	52	1	.14
4	28	4	.30	42	2	.23	77	2	.42
5	32	3	.26	40	2	.22	184	6	3.0
6	35	5	.47	36	1	.10	130	2	.70
7	33	4	.36	35	1	.09	113	2	.61
8	30	3	.24	34	2	.18	93	1	.25
9	31	3	.25	36	1	.10	76	1	.21
10	32	3	.26	37	1	.10	69	1	.19
11	29	4	.31	37	1	.10	63	<1	.08
12	28	4	.30	714	82	218	63	<1	.08
13	28	3	.23	682	58	107	66	<1	.08
14	28	3	.23	280	4	3.0	60	1	.16
15	27	3	.22	166	3	1.4	59	1	.16
16	26	3	.21	135	1	.36	57	1	.15
17	26	2	.14	107	1	.29	186	29	15
18	26	1	.07	90	1	.24	296	17	14
19	26	1	.07	78	1	.21	492	7	9.3
20	26	1	.07	67	1	.18	558	6	9.0
21	26	1	.07	61	1	.16	261	5	3.5
22	26	2	.14	57	1	.15	195	5	2.6
23	43	3	.35	52	1	.14	133	4	1.4
24	38	3	.31	51	1	.14	113	2	.61
25	40	3	.32	48	1	.13	113	1	.31
26	42	2	.23	45	1	.12	109	2	.59
27	43	1	.12	52	1	.14	93	2	.53
28	44	1	.12	50	1	.13	566	21	46
29	44	2	.24	46	1	.12	411	33	37
30	43	1	.12	---	---	---	199	7	3.8
31	40	1	.11	---	---	---	140	2	.76
TOTAL	1004	---	7.13	3206	---	333.72	5127	---	156.86

07068380 LITTLE BLACK RIVER NEAR GRANDIN, MO--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DAY	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		APRIL			MAY			JUNE	
1	130	1	.35	35	1	.09	21	5	.28
2	116	2	.63	34	1	.09	20	3	.16
3	793	18	39	37	1	.10	19	1	.05
4	394	10	11	35	1	.09	18	3	.15
5	210	8	4.5	33	1	.09	18	5	.24
6	147	9	3.6	45	1	.12	17	4	.18
7	113	4	1.2	333	19	33	16	1	.04
8	242	5	3.3	469	31	39	17	2	.09
9	583	8	13	210	4	2.3	15	5	.20
10	307	2	1.7	145	1	.39	15	6	.24
11	190	3	1.5	114	1	.31	14	5	.19
12	154	5	2.1	93	3	.75	13	9	.32
13	129	4	1.4	78	3	.63	13	10	.35
14	101	4	1.1	71	1	.19	13	10	.35
15	85	2	.46	60	1	.16	13	8	.28
16	76	2	.41	55	3	.45	12	6	.19
17	66	1	.18	51	1	.14	12	5	.16
18	59	1	.16	47	1	.13	11	5	.15
19	54	1	.15	43	1	.12	11	6	.18
20	50	2	.27	40	1	.11	12	7	.23
21	50	2	.27	40	1	.11	12	7	.23
22	48	2	.26	38	3	.31	12	7	.23
23	45	2	.24	33	1	.09	12	6	.19
24	42	1	.11	30	1	.08	11	7	.21
25	39	1	.11	28	1	.08	11	6	.18
26	37	1	.10	29	1	.08	11	3	.09
27	32	1	.09	35	4	.36	10	3	.08
28	28	<1	.04	35	3	.28	10	3	.08
29	25	<1	.04	27	4	.29	10	2	.05
30	35	1	.09	25	5	.34	9.3	4	.10
31	---	---	---	24	6	.39	---	---	---
TOTAL	4380	---	100.45	2370	---	80.85	408.3	---	5.02

DAY	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		JULY			AUGUST			SEPTEMBER	
1	8.9	5	.12	8.7	12	.28	5.4	6	.09
2	8.9	4	.10	8.2	10	.22	5.2	5	.07
3	8.4	4	.09	9.5	12	.31	6.2	5	.08
4	10	---	---	18	15	.73	5.8	8	.13
5	17	---	---	15	7	.28	5.4	5	.07
6	15	---	---	10	5	.13	5.4	5	.07
7	13	---	---	8.9	8	.19	6.2	6	.10
8	12	5	.16	8.4	10	.23	6.7	7	.13
9	11	4	.12	8.0	9	.19	16	22	.95
10	9.8	5	.13	8.2	8	.18	11	11	.33
11	9.1	3	.07	9.1	9	.22	10	2	.05
12	8.9	3	.07	8.6	10	.23	9.1	2	.05
13	8.2	4	.09	7.8	10	.21	8.4	2	.05
14	8.0	3	.06	7.8	8	.17	8.0	3	.06
15	8.0	6	.13	7.6	6	.12	7.8	7	.15
16	9.1	8	.20	7.4	4	.08	7.8	7	.15
17	8.4	7	.16	6.7	5	.09	8.4	7	.16
18	8.0	5	.11	6.7	4	.07	9.1	5	.12
19	7.6	4	.08	7.1	4	.08	5.1	5	.12
20	7.2	5	.10	7.1	4	.08	9.3	5	.13
21	7.1	6	.12	6.9	4	.07	9.5	4	.10
22	6.9	8	.15	9.2	11	.27	12	8	.26
23	6.5	7	.12	8.2	9	.20	12	12	.39
24	6.3	5	.09	7.1	6	.12	11	6	.18
25	6.2	5	.08	6.3	5	.09	13	12	.42
26	8.0	7	.15	6.0	6	.10	18	12	.58
27	12	13	.42	5.8	5	.08	11	5	.15
28	8.9	7	.17	6.3	9	.15	8.6	3	.07
29	8.4	9	.20	6.3	7	.12	7.8	1	.02
30	7.6	9	.18	5.6	2	.03	7.6	2	.04
31	7.6	11	.23	5.5	5	.07	---	---	---
TOTAL	282.0	---	3.61	252.2	---	5.39	270.8	---	5.03
YEAR	28500.9		2014.15						

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07068510 LITTLE BLACK RIVER BELOW FAIRDEALING, MO

LOCATION.--Lat 36°37'54", long 90°34'31", NE¼SE¼NE¼ sec.24, T.23 N., R.4 E., Butler County, Hydrlogic Unit 11010008, on left bank 200 ft east of river and just north of a gravel road, 5 mi below Beaverdam Creek and 3.1 mi southeast of Fairdealing.

DRAINAGE AREA.--194 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1980 to current year.

GAGE.--Water-stage recorder. Datum of gage is 295.18 feet National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 54,200 ft³/s Dec. 3, 1982, gage height, 21.01 ft; minimum, 24 ft³/s Sept. 7, 1983.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,710 ft³/s Nov. 24, gage height, 14.43 ft, no peak above base of 3,000 ft³/s; minimum daily, 30 ft³/s Oct. 3.

DISCHARGE (CUBIC FEET/SECOND) WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	32	50	348	110	107	153	333	138	81	54	49	39
2	31	58	450	108	103	152	303	123	78	55	49	38
3	30	89	1080	108	111	150	1560	121	76	55	52	34
4	53	365	2300	108	113	204	1370	124	75	55	52	34
5	84	315	1610	113	105	432	685	116	73	57	54	39
6	76	185	947	115	95	424	444	225	71	59	55	38
7	59	134	607	114	88	330	349	718	70	61	52	37
8	51	112	434	109	84	274	355	1280	69	61	50	36
9	46	101	352	107	83	253	1150	710	67	59	47	41
10	44	103	302	120	86	205	1130	426	67	57	45	48
11	44	106	901	114	89	188	622	328	65	53	44	50
12	49	101	1240	102	341	176	464	271	63	52	44	50
13	52	94	705	97	2020	188	410	230	63	51	45	45
14	50	91	508	94	1160	181	337	202	60	50	47	44
15	48	94	429	91	539	175	290	179	61	51	45	42
16	46	97	347	90	395	194	261	159	63	55	46	40
17	45	83	284	88	334	316	237	145	58	54	47	38
18	45	88	241	87	285	817	213	134	56	59	47	38
19	45	170	210	85	257	963	193	125	63	55	44	37
20	46	1130	190	83	222	1030	177	120	72	52	43	36
21	56	824	178	81	198	708	176	116	62	52	43	36
22	78	423	181	79	179	448	172	111	68	50	44	37
23	81	1760	168	98	164	342	158	105	64	50	46	45
24	68	2360	158	146	152	299	146	98	59	48	47	52
25	58	982	143	146	142	306	137	93	59	44	45	47
26	53	472	137	150	131	287	128	90	58	45	43	42
27	52	586	130	149	142	261	122	94	55	47	41	43
28	50	1530	130	142	164	668	115	103	56	47	41	46
29	50	854	126	137	157	1260	207	98	55	50	42	44
30	52	465	116	130	---	652	185	90	54	49	42	40
31	51	---	110	115	---	415	---	85	---	49	40	---
TOTAL	1619	13822	15062	3416	8586	12431	12429	6959	1941	1636	1431	1236
MEAN	52.2	461	486	110	296	401	414	224	64.7	52.8	46.2	41.2
MAX	84	2360	2300	150	2020	1260	1560	1280	81	61	55	52
MIN	30	50	110	79	83	150	115	85	54	44	40	34

CAL YR 1983	TOTAL	74319	MEAN	204	MAX	2500	MIN	25
WTR YR 1984	TOTAL	80568	MEAN	220	MAX	2360	MIN	30

07068510 LITTLE BLACK RIVER BELOW FAIRDEALING, MO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--August 1980 to current year.

PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: May 1981 to current year.
SUSPENDED-SEDIMENT DISCHARGE: July 1980 to current year.

INSTRUMENTATION.--Water temperature recorder since May 1981.

REMARKS.--Records good.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: Maximum 31.0°C several days in July, 1980; minimum, 0.0°C on many days.
SUSPENDED-SEDIMENT CONCENTRATIONS: Maximum daily mean, 643 mg/L August 16, 1982; minimum daily mean, 1 mg/L on many days.
SUSPENDED-SEDIMENT LOADS: Maximum daily, 11,100 tons December 2, 1982; minimum daily, 0.12 tons December 19, 1982.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURE: Maximum, 28.5°C July 11 and 12; minimum, 0.0°C on many days in December and January.
SUSPENDED-SEDIMENT CONCENTRATIONS: Maximum daily mean, 273 mg/L November 23; minimum daily mean, 1 mg/L on February 5, 6, and 7.
SUSPENDED-SEDIMENT LOADS: Maximum daily, 1,270 tons November 24; minimum daily, 0.24 tons February 7.

WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS) (00061)	SPECIFIC CONDUCTANCE (UMHOS) (00095)	PH (STANDARD UNITS) (00400)	TEMPERATURE (DEG C) (00010)	TURBIDITY (NTU) (00076)	OXYGEN, DISSOLVED (MG/L) (00300)	OXYGEN, DISSOLVED (PERCENT SATURATION) (00301)	COLIFORM, FECAL, 0.7 UM-MF (COLS./100 ML) (31625)	STREPTOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MG/L) (00530)
OCT											
06...	0800	82	268	7.5	18.0	5.8	5.2	53	3100	1600	14
JAN											
03...	1445	108	219	7.3	1.0	1.5	9.6	67	28	62	6
FEB											
15...	1130	553	90	6.8	8.5	12	10.6	91	110	260	21
APR											
06...	0915	485	97	7.4	11.0	8.1	9.7	85	K20	K38	12
JUN											
07...	0850	70	246	7.3	23.0	11	4.2	48	180	96	38
JUL											
18...	1420	61	287	7.7	24.0	11	6.2	72	180	660	5
SEP											
12...	0810	67	390	7.0	21.0	6.0	5.3	58	K520	440	6

DATE	NITROGEN, NITRATE TOTAL (MG/L AS N) (00620)	NITROGEN, NITRITE TOTAL (MG/L AS N) (00615)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITROGEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITROGEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITROGEN, TOTAL (MG/L AS N) (00600)	NITROGEN, TOTAL (MG/L AS NO3) (71887)	PHOSPHORUS, TOTAL (MG/L AS P) (00665)	PHOSPHORUS TOTAL (MG/L AS PO4) (71886)	PHOSPHORUS, ORTHO, TOTAL (MG/L AS P) (70507)
OCT											
06...	--	<.020	<.10	.030	.67	.70	--	--	.010	.03	.020
JAN											
03...	--	<.010	.50	<.010	--	<.20	--	--	.010	.03	.010
FEB											
15...	.39	.010	.40	.200	.00	.20	.60	2.7	.010	.03	.020
APR											
06...	--	<.010	.20	.110	.19	.30	.50	2.2	.020	.06	.030
JUN											
07...	--	<.010	.10	.060	.34	.40	.50	2.2	.030	--	<.010
JUL											
18...	--	<.010	<.10	.040	.36	.40	--	--	.030	--	<.010
SEP											
12...	--	<.010	<.10	.030	--	<.20	--	--	.020	--	.010

K--Results based on colony count outside the acceptable range (non-ideal colony count).

07068510 LITTLE BLACK RIVER BELOW FAIRDEALING, MO--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	19.5	17.5	18.5	14.5	13.5	14.0	8.0	7.0	7.5	.0	.0	.0
2	19.5	17.5	18.5	15.5	14.0	14.5	7.0	5.5	6.5	.0	.0	.0
3	20.0	18.5	19.5	15.5	15.0	15.0	7.0	6.5	7.0	.0	.0	.0
4	20.0	19.5	19.5	16.0	14.5	15.0	7.5	7.0	7.5	1.5	.0	1.0
5	19.5	18.5	19.0	14.5	12.5	13.0	9.0	7.5	8.0	2.5	1.0	2.0
6	18.5	17.5	18.0	12.0	11.0	11.0	9.0	8.0	8.5	4.0	2.0	3.0
7	18.5	17.5	18.0	11.0	11.0	11.0	8.0	6.5	7.0	4.0	2.5	3.5
8	18.5	17.5	18.0	11.5	11.0	11.0	6.5	6.0	6.5	4.5	3.0	3.5
9	18.5	17.5	18.0	12.5	11.0	11.5	6.5	6.0	6.5	5.0	3.0	4.0
10	18.5	17.0	17.5	12.0	11.0	11.0	6.5	6.5	6.5	4.5	3.0	3.5
11	18.0	17.5	17.5	11.0	10.0	10.5	8.5	7.0	8.0	3.0	2.0	2.5
12	17.5	16.0	17.0	10.0	9.0	9.0	8.5	8.0	8.0	2.5	1.5	2.0
13	16.0	15.0	15.5	9.0	8.5	9.0	8.0	8.0	8.0	2.5	1.5	2.0
14	15.0	14.0	14.5	9.0	8.0	8.5	8.0	7.0	7.5	2.0	1.5	2.0
15	15.0	14.0	14.5	9.5	8.5	9.0	6.5	5.5	6.0	2.0	1.0	1.5
16	15.0	13.5	14.5	9.5	8.5	9.0	5.5	4.0	4.5	2.0	1.5	2.0
17	15.5	15.0	15.0	9.0	8.5	9.0	4.0	3.0	3.5	1.5	1.0	1.0
18	15.5	15.0	15.0	10.0	9.0	9.5	3.5	2.5	3.0	1.0	.0	.5
19	15.5	15.0	15.5	14.0	10.0	11.5	2.5	1.0	1.5	.5	.0	.0
20	16.5	15.5	16.0	12.5	12.0	12.5	1.0	.0	.5	.0	.0	.0
21	17.5	16.5	17.0	12.0	11.0	11.0	1.0	.5	1.0	.0	.0	.0
22	17.5	17.0	17.5	12.5	11.0	11.5	1.5	.5	1.0	.0	.0	.0
23	17.0	16.0	16.5	14.5	13.0	14.0	1.0	.0	.0	.0	.0	.0
24	16.0	15.5	15.5	13.0	10.5	11.5	.0	.0	.0	.0	.0	.0
25	15.5	14.5	15.0	10.5	9.0	9.5	.0	.0	.0	2.0	.0	1.5
26	14.5	13.5	14.0	10.0	9.0	9.5	.5	.0	.0	2.5	2.0	2.5
27	14.0	12.5	13.0	11.0	10.0	10.5	.0	.0	.0	3.5	2.5	3.0
28	13.5	12.0	13.0	11.0	9.0	10.5	.0	.0	.0	4.0	3.0	3.5
29	14.0	12.5	13.0	9.0	8.0	8.5	.0	.0	.0	5.0	3.5	4.0
30	14.0	12.5	13.0	8.0	8.0	8.0	.0	.0	.0	5.5	4.5	5.0
31	14.5	13.0	13.5	---	---	---	.0	.0	.0	5.0	3.5	4.5
MONTH	20.0	12.0	16.0	16.0	8.0	11.0	9.0	.0	4.0	5.5	.0	2.0

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	5.5	3.5	4.5	6.0	4.0	5.0	10.0	9.0	9.5	18.0	16.5	17.5
2	5.5	4.0	5.0	7.0	5.5	6.0	10.5	9.5	10.0	17.5	17.0	17.5
3	6.0	4.5	5.5	8.0	6.5	7.5	11.0	10.5	10.5	17.5	16.5	17.0
4	6.5	5.0	6.0	8.5	7.5	8.0	11.0	10.0	10.5	17.5	16.0	16.5
5	5.5	3.0	4.5	8.5	8.0	8.5	11.0	9.5	10.0	17.0	16.5	17.0
6	3.0	2.0	2.5	8.0	7.0	7.0	11.5	10.5	11.0	16.5	15.0	15.5
7	2.5	1.0	2.0	7.0	6.0	7.0	12.0	11.0	11.5	15.0	14.5	15.0
8	3.0	1.0	2.5	7.5	6.5	7.0	11.0	11.0	11.0	15.0	14.0	14.5
9	3.5	2.0	3.0	6.5	6.0	6.5	11.0	11.0	11.0	15.0	14.5	15.0
10	6.5	3.5	5.0	6.5	6.0	6.0	11.0	11.0	11.0	16.0	14.5	15.0
11	8.5	6.5	7.5	7.0	6.0	6.5	12.5	11.0	11.5	18.0	16.0	17.0
12	10.0	8.5	9.0	7.0	6.0	6.5	14.0	12.5	13.5	20.0	18.0	19.0
13	8.5	8.0	8.5	7.0	6.0	6.5	14.5	13.0	14.0	20.5	19.5	20.0
14	8.5	7.5	8.0	7.5	6.5	7.0	14.5	12.5	13.5	21.0	20.0	20.5
15	8.5	7.5	8.0	10.0	7.5	8.5	12.5	12.0	12.5	20.0	18.5	19.5
16	9.5	8.5	9.0	11.0	10.0	11.0	12.0	11.5	12.0	19.0	18.0	18.5
17	10.0	9.0	9.5	11.0	9.5	10.0	12.5	11.0	11.5	18.5	17.0	18.0
18	9.5	9.0	9.5	10.0	8.0	9.0	13.5	11.0	12.0	19.5	17.0	18.5
19	9.0	8.5	9.0	8.5	8.0	8.0	15.0	13.5	14.0	20.5	18.0	19.5
20	9.0	8.5	9.0	8.5	8.0	8.5	15.0	14.0	14.5	21.0	19.5	20.5
21	8.5	8.0	8.5	8.5	8.0	8.0	14.0	13.5	13.5	21.0	20.5	20.5
22	8.5	7.5	8.0	9.0	8.0	8.5	15.0	14.0	14.5	21.5	20.5	21.0
23	8.5	7.5	8.0	10.0	9.0	9.5	14.5	13.0	14.0	22.5	20.5	21.5
24	9.0	8.5	8.5	10.5	10.0	10.0	14.5	12.0	13.5	22.0	20.5	21.0
25	8.5	7.5	8.0	10.0	10.0	10.0	16.0	14.0	15.0	22.5	20.0	21.5
26	9.0	8.0	8.0	10.5	9.5	10.0	17.5	16.0	16.5	22.0	21.0	21.0
27	8.0	5.0	6.5	11.0	10.0	10.5	20.0	17.0	18.5	20.5	19.0	19.5
28	5.0	4.0	4.5	11.0	9.5	10.5	21.0	19.0	20.0	20.5	18.5	19.5
29	5.5	3.5	4.5	10.0	9.0	9.5	20.0	17.0	18.5	19.5	17.5	18.5
30	---	---	---	11.0	10.0	10.5	18.5	17.5	18.0	18.5	17.0	17.5
31	---	---	---	11.0	9.5	10.0	---	---	---	18.5	16.5	17.5
MONTH	10.0	1.0	6.5	11.0	4.0	8.5	21.0	9.0	13.0	22.5	14.0	18.5

07068510 LITTLE BLACK RIVER BELOW FAIRDEALING, MO--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	19.5	17.5	18.5	25.0	23.0	24.0	25.0	23.5	24.5	26.5	24.5	25.5
2	21.0	19.0	20.0	25.5	23.5	24.5	25.5	24.0	24.5	26.5	24.5	25.5
3	22.5	20.5	21.5	26.0	23.5	24.5	25.5	24.0	24.5	25.5	24.5	25.0
4	23.5	22.0	23.0	26.0	24.5	25.0	25.5	24.0	24.5	24.5	23.0	23.5
5	23.5	22.5	23.0	25.5	24.5	25.0	25.5	24.5	25.0	23.5	21.5	22.5
6	24.0	23.0	23.5	26.5	24.5	25.5	26.0	24.5	25.5	23.5	21.0	22.0
7	24.0	23.5	23.5	25.5	24.5	25.0	27.0	25.0	26.0	23.5	21.0	22.5
8	24.5	23.5	24.0	26.0	24.0	25.0	27.5	25.5	26.5	23.5	21.5	22.5
9	25.5	24.0	24.5	27.0	25.0	25.5	27.0	26.0	26.5	23.0	21.5	22.0
10	25.5	24.5	25.0	28.0	26.0	26.5	26.5	25.5	26.0	23.5	22.0	22.5
11	26.0	24.5	25.0	28.5	26.5	27.5	26.5	25.0	25.5	23.5	22.5	23.0
12	26.5	25.0	25.5	28.5	26.5	27.0	26.5	25.0	26.0	24.5	23.0	24.0
13	27.0	25.5	26.0	27.5	25.5	26.5	26.5	25.0	26.0	25.0	23.5	24.5
14	27.5	25.5	26.5	27.5	25.5	26.5	26.5	25.0	26.0	25.5	24.0	25.0
15	27.5	26.0	26.5	27.5	26.0	26.5	25.5	25.0	25.5	24.5	22.5	23.5
16	27.0	26.0	26.5	27.5	26.0	26.5	26.0	24.5	25.0	22.0	20.5	21.0
17	27.0	26.0	26.5	27.0	26.0	26.5	26.0	24.5	25.5	20.0	18.5	19.5
18	28.0	26.0	27.0	26.5	25.0	25.5	25.5	25.0	25.5	20.5	18.5	19.5
19	27.5	26.0	26.5	26.5	24.5	25.5	25.5	24.5	25.0	20.5	18.0	19.5
20	27.0	26.0	26.5	26.5	24.5	25.5	26.0	24.5	25.0	20.5	18.0	19.5
21	27.0	26.0	26.5	26.5	24.5	25.5	25.5	24.0	25.0	20.5	18.0	19.5
22	27.0	26.0	26.5	27.0	25.0	26.0	25.0	24.5	24.5	20.0	19.0	19.5
23	26.5	26.0	26.5	27.0	25.0	26.0	25.0	23.5	24.0	20.5	19.5	20.0
24	27.0	26.0	26.5	27.0	25.0	26.0	24.5	22.5	23.5	21.5	20.0	20.5
25	26.5	25.0	25.5	27.5	25.5	26.5	24.0	22.0	23.0	22.0	20.5	21.0
26	26.0	24.5	25.0	27.0	26.0	26.5	24.0	21.5	23.0	20.5	18.5	19.5
27	26.0	24.0	25.0	26.5	25.0	26.0	24.0	22.0	23.0	18.5	17.0	17.5
28	26.0	24.5	25.0	25.5	24.5	25.0	25.0	23.5	24.0	17.0	16.0	16.5
29	26.0	24.5	25.0	25.0	23.5	24.5	26.0	24.5	25.0	16.0	15.0	15.5
30	25.5	24.0	24.5	25.0	23.0	24.0	26.5	25.0	25.5	15.0	14.5	14.5
31	---	---	---	25.0	23.5	24.0	26.0	24.5	25.5	---	---	---
MONTH	28.0	17.5	25.0	28.5	23.0	25.5	27.5	21.5	25.0	26.5	14.5	21.0
YEAR	28.5	.0	14.5									

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07068510 LITTLE BLACK RIVER BELOW FAIRDEALING, MO--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		OCTOBER			NOVEMBER			DECEMBER	
1	32	20	1.7	50	21	2.8	348	23	22
2	32	21	1.8	58	46	7.2	450	78	95
3	30	22	1.8	89	65	16	1080	108	314
4	53	92	13	365	100	98	2300	126	782
5	84	118	27	315	45	38	1610	33	144
6	76	37	7.6	185	33	16	947	22	56
7	59	41	6.5	134	33	12	607	21	34
8	51	31	4.3	112	23	7.0	434	25	29
9	46	44	5.5	101	21	5.7	352	31	29
10	44	44	5.2	103	22	6.1	302	63	51
11	44	50	5.9	106	18	5.1	901	110	268
12	49	58	7.4	101	11	3.0	1240	41	138
13	52	48	6.7	94	14	3.6	705	37	70
14	50	44	5.9	91	20	4.9	508	34	47
15	48	48	6.2	94	27	6.9	429	21	24
16	46	42	5.2	97	17	4.5	347	21	20
17	45	36	4.4	93	16	4.0	284	21	16
18	45	27	3.3	88	16	3.8	241	14	9.1
19	45	24	2.9	160	26	11	210	15	8.5
20	46	40	5.0	1130	113	346	190	11	5.6
21	50	48	6.5	824	59	131	178	25	12
22	78	70	15	423	57	65	187	14	6.9
23	81	46	10	1760	273	1170	168	13	5.9
24	68	35	6.0	2360	199	1270	158	16	6.8
25	58	23	3.6	982	30	80	143	19	7.3
26	53	26	3.7	472	23	29	137	19	7.0
27	52	32	4.5	588	80	127	130	17	6.0
28	50	27	3.7	1530	85	352	130	32	11
29	50	22	3.0	854	28	65	126	19	6.5
30	52	18	2.5	465	19	24	116	13	4.1
31	51	18	2.5	---	---	---	110	15	4.5
TOTAL	1619	---	188.3	13822	---	3914.6	15062	---	2240.2

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		JANUARY			FEBRUARY			MARCH	
1	110	28	8.3	107	4	1.2	153	5	2.1
2	108	28	8.2	103	4	1.1	152	3	1.2
3	108	27	7.9	111	8	2.4	150	5	2.0
4	108	17	5.0	113	7	2.1	204	39	24
5	113	17	5.2	105	1	.28	432	14	16
6	115	17	5.3	95	1	.26	424	8	9.2
7	114	18	5.5	88	1	.24	330	7	6.3
8	109	18	5.3	84	2	.45	274	6	4.4
9	107	18	5.2	83	3	.67	233	5	3.1
10	120	18	5.8	86	2	.46	205	4	2.2
11	114	22	6.8	89	7	1.7	188	4	2.0
12	102	17	4.7	941	265	730	176	4	1.9
13	97	19	5.0	2020	66	359	188	6	3.0
14	94	19	4.8	1100	24	71	181	6	2.9
15	91	14	3.4	539	14	20	175	6	2.8
16	90	14	3.4	395	12	13	194	7	3.7
17	88	17	4.0	334	10	9.0	316	5	4.3
18	87	17	4.0	285	9	6.9	817	8	24
19	85	16	3.7	257	7	4.9	963	34	86
20	83	18	4.1	222	7	4.2	1030	69	192
21	81	18	4.0	198	6	3.2	708	21	40
22	79	13	2.8	179	6	2.9	448	9	11
23	98	13	3.5	164	5	2.2	342	8	7.4
24	146	13	5.1	152	3	2.1	299	11	8.9
25	146	29	11	142	5	1.9	306	10	8.3
26	150	18	7.3	131	5	1.8	287	6	4.7
27	149	14	5.6	142	7	2.7	261	8	5.6
28	142	17	6.5	164	5	2.2	668	111	210
29	137	9	3.3	157	3	1.3	1260	22	75
30	130	6	2.1	---	---	---	652	13	23
31	115	4	1.2	---	---	---	415	9	10
TOTAL	3416	---	158.0	8586	---	1249.16	12431	---	797.0

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07068510 LITTLE BLACK RIVER BELOW FAIRDEALING, MO--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		APRIL			MAY			JUNE	
1	333	9	8.1	138	22	8.2	81	33	7.2
2	303	8	6.5	123	22	7.3	78	33	7.0
3	1560	61	242	121	22	7.2	76	39	8.0
4	1370	7	26	124	22	7.4	75	41	8.3
5	685	9	17	118	19	6.0	73	40	7.9
6	444	10	12	225	114	78	71	41	7.9
7	349	11	10	718	147	282	70	41	7.7
8	355	39	42	1280	55	190	69	41	7.6
9	1150	36	112	710	24	46	67	41	7.5
10	1130	15	46	426	22	25	67	40	7.2
11	622	11	18	328	24	21	65	40	7.0
12	464	19	24	271	29	21	63	40	6.8
13	410	16	18	230	26	16	63	38	6.5
14	337	11	10	202	29	16	60	37	6.0
15	290	9	7.1	179	31	15	61	37	6.1
16	261	11	7.8	159	29	12	63	35	5.9
17	237	12	7.7	145	26	10	58	36	5.6
18	213	14	8.1	134	29	10	56	34	5.1
19	193	16	8.4	125	28	9.5	63	50	8.5
20	177	13	6.2	120	31	10	72	69	13
21	176	11	5.2	116	34	11	62	52	8.7
22	172	14	6.5	111	33	9.9	68	62	11
23	158	11	4.7	105	32	9.1	64	54	9.3
24	146	8	3.2	98	36	9.5	59	33	5.3
25	137	11	4.1	93	36	9.0	59	28	4.4
26	128	11	3.8	90	37	9.0	58	27	4.3
27	122	13	4.3	94	36	9.2	55	26	3.9
28	115	14	4.4	103	37	10	56	25	3.8
29	207	52	40	98	34	9.0	55	26	3.8
30	185	23	11	90	36	8.7	54	26	3.8
31	---	---	---	85	36	8.2	---	---	---
TOTAL	12429	---	724.1	6959	---	900.2	1941	---	205.1

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		JULY			AUGUST			SEPTEMBER	
1	54	26	3.8	49	15	2.0	39	14	1.5
2	55	24	3.6	49	16	2.1	38	15	1.6
3	55	24	3.6	52	17	2.4	34	14	1.3
4	55	23	3.4	52	17	2.4	34	15	1.4
5	57	19	2.9	54	16	2.3	39	17	1.8
6	59	18	2.9	55	12	1.8	38	20	2.1
7	61	17	2.8	52	16	2.3	37	24	2.4
8	61	17	2.8	50	17	2.3	36	28	2.7
9	59	17	2.7	47	13	1.7	41	31	3.4
10	57	16	2.5	45	10	1.2	48	36	4.6
11	53	13	1.9	44	9	1.1	50	28	3.8
12	52	11	1.5	44	8	.95	50	16	2.2
13	51	12	1.6	45	8	.97	45	17	2.1
14	50	11	1.5	47	9	1.1	44	21	2.5
15	51	11	1.5	45	13	1.6	42	17	2.0
16	55	14	2.1	46	13	1.6	40	11	1.2
17	54	15	2.2	47	10	1.3	38	12	1.3
18	59	14	2.2	47	13	1.7	38	12	1.2
19	55	12	1.8	44	10	1.2	37	13	1.3
20	52	16	2.3	43	9	1.1	36	12	1.2
21	52	10	1.4	43	10	1.2	36	11	1.1
22	50	12	1.6	44	11	1.3	37	13	1.3
23	50	14	1.9	46	14	1.8	45	22	2.7
24	48	13	1.7	47	19	2.4	52	22	3.1
25	44	17	2.0	45	21	2.5	47	27	3.4
26	45	17	2.1	43	19	2.2	42	27	3.1
27	47	18	2.3	41	13	1.5	43	23	2.6
28	47	18	2.3	41	13	1.4	46	20	2.5
29	50	17	2.3	42	15	1.7	44	19	2.3
30	49	15	2.0	42	15	1.7	40	17	1.9
31	49	15	2.0	40	15	1.6	---	---	---
TOTAL	1636	---	71.2	1431	---	52.43	1236	---	65.6
YEAR	80568		10565.89						

07068540 LOGAN CREEK AT OXLY, MO

LOCATION.--Lat 36°35'40", long 90°41'42", in SW¼SE¼SW¼ sec.36, T.23 N., R.3 E., Ripley County, Hydrologic Unit 11010008, on the downstream side of Highway 142 bridge at west edge of Oxly, 0.7 mi below Cypress Creek and 5 mi above Harris Creek.

DRAINAGE AREA.--37.5 mi².

WATER DISCHARGE RECORDS

PERIOD OF RECORD.--August 1980 to current year. (discontinued)

GAGE.--Water-stage recorder. Datum of gage is 303.34 feet, National Geodetic Vertical Datum of 1929.

REMARKS.--Water discharge records good.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 15,200 ft³/s Dec. 3, 1982, gage height, 15.25 ft; minimum, 1.7 ft³/s Sept. 5, 6, 1983.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,500 ft³/s and maximum (*):

Date	Time	Discharge (ft³/s)	Gage height (ft)
Nov. 23	1030	*4,000	10.50
Nov. 27	1800	1,520	7.45
Feb. 12	1200	1,940	8.20
Mar. 18	1300	1,670	7.75
May 7	1500	2,000	8.30

Minimum daily discharge, 2.1 ft³/s Oct. 1.

DISCHARGE (CUBIC FEET/SECOND) WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.1	4.3	33	15	31	35	49	28	14	5.2	3.5	4.8
2	2.3	22	207	12	31	34	86	27	12	5.0	3.9	4.8
3	2.3	48	616	13	34	31	553	28	12	4.5	4.8	5.0
4	17	219	370	15	32	78	170	28	11	5.0	4.1	5.3
5	9.8	31	133	18	29	130	91	28	11	5.8	3.9	5.0
6	4.1	20	160	21	26	74	66	152	9.8	5.2	4.8	4.8
7	3.3	15	68	19	24	53	53	636	9.4	4.8	4.5	4.8
8	2.4	12	48	19	22	42	206	226	9.0	4.3	3.9	4.8
9	2.3	12	39	19	23	35	360	105	8.7	4.1	3.9	8.8
10	2.8	14	39	24	25	33	139	69	8.3	4.5	3.7	7.3
11	2.8	13	395	21	25	31	88	54	8.3	3.6	3.5	5.3
12	4.5	11	138	19	688	33	88	47	8.0	4.1	4.5	5.0
13	3.9	11	77	17	212	36	77	40	7.6	3.7	4.3	4.5
14	3.7	11	77	17	101	33	58	48	7.3	3.5	4.1	4.3
15	3.3	12	56	16	72	33	50	36	14	3.9	4.1	4.3
16	3.2	12	39	17	62	34	46	33	9.0	4.5	4.5	4.1
17	3.3	11	30	16	50	125	40	30	7.6	4.1	4.3	4.1
18	3.5	11	27	16	46	477	36	28	7.3	3.9	4.5	3.9
19	3.5	143	26	16	41	231	34	27	7.3	3.9	4.5	3.9
20	3.7	363	19	16	36	131	34	27	7.3	3.9	4.1	3.9
21	8.3	63	18	17	34	82	36	28	7.3	3.7	4.1	3.9
22	12	90	17	16	31	59	35	27	7.0	3.5	6.1	4.3
23	6.6	1180	16	43	30	50	32	25	7.0	3.5	5.3	9.2
24	5.2	135	16	60	28	57	31	23	6.3	3.5	5.0	6.7
25	4.5	64	16	66	27	61	28	22	5.8	3.3	5.0	5.6
26	4.5	40	13	62	25	52	27	22	5.8	3.7	4.8	4.3
27	4.3	431	14	55	30	48	27	56	5.5	3.9	4.8	4.1
28	4.3	205	15	48	35	211	24	34	7.0	3.7	5.0	4.1
29	4.3	71	14	44	33	122	33	22	5.8	3.7	5.0	4.1
30	4.3	36	15	38	---	75	32	17	5.5	3.5	4.8	3.9
31	4.1	---	14	33	---	56	---	15	---	3.7	4.8	---
TOTAL	146.2	3310.3	2765	828	1883	2582	2623	1988	251.9	127.2	138.1	148.3
MEAN	4.72	110	89.2	26.7	64.9	83.3	87.4	64.1	8.40	4.10	4.45	4.94
MAX	17	1180	616	66	688	477	553	636	14	5.8	6.1	9.2
MIN	2.1	4.3	13	12	22	31	24	15	5.5	3.3	3.5	3.9

CAL YR 1983	TOTAL	14364.6	MEAN	39.4	MAX	1180	MIN	1.9
WTR YR 1984	TOTAL	16791.0	MEAN	45.9	MAX	1180	MIN	2.1

07068540 LOGAN CREEK AT OXLY, MO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--August 1980 to current year.

PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: May 1981 to current year.
SUSPENDED-SEDIMENT: August 1980 to current year.

INSTRUMENTATION.--Water temperature recorder since May 1981.

REMARKS.--Number of missing days of suspended sediment record exceeded 20 percent of year.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: Maximum 29.0°C on July 21, 23, and 24, 1983; minimum 1.0°C on many days.
SUSPENDED-SEDIMENT CONCENTRATIONS: Maximum daily mean, 173 mg/L December 3, 1982, minimum daily mean, <1 mg/L on many days.
SUSPENDED-SEDIMENT LOADS: Maximum daily, 3,040 tons December 3, 1982; minimum daily, 0.00 tons on many days.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURE: Maximum, 26.5°C on July 11; minimum, 1.0°C on January 23 and 24.

WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS) (00061)	SPECIFIC CONDUCTANCE (UMHOS) (00095)	PH (STANDARD UNITS) (00400)	TEMPERATURE (DEG C) (00010)	TURBIDITY (NTU) (00076)	OXYGEN, DISSOLVED (MG/L) (00300)	OXYGEN, DISSOLVED (PERCENT SATURATION) (00301)	COLIFORM, FECAL, 0.7 UM-MF (COLS./100 ML) (31625)	STREPTOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MG/L) (00530)
OCT											
06...	0850	4.3	280	7.3	16.0	1.4	5.8	57	360	1300	<1
JAN											
03...	1135	13	221	7.3	3.0	.70	11.8	90	K7	K9	3
FEB											
14...	1445	95	111	6.7	9.0	6.8	9.2	80	40	130	14
APR											
05...	1640	84	106	7.6	13.0	5.7	10.9	101	K30	K10	4
JUN											
07...	1005	9.4	230	7.4	22.0	1.3	5.2	58	K15	52	3
JUL											
18...	1310	4.1	306	7.6	22.0	2.1	5.8	64	K60	520	<2
SEP											
12...	1010	5.2	310	7.2	21.0	2.0	5.2	57	K14	120	1

DATE	NITROGEN, NITRATE TOTAL (MG/L AS N) (00620)	NITROGEN, NITRITE TOTAL (MG/L AS N) (00615)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITROGEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITROGEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITROGEN, TOTAL (MG/L AS N) (00600)	NITROGEN, TOTAL (MG/L AS NO3) (71887)	PHOSPHORUS, TOTAL (MG/L AS P) (00665)	PHOSPHORUS TOTAL (MG/L AS PO4) (71886)	PHOSPHORUS, ORTHO, TOTAL (MG/L AS P) (70507)
OCT											
06...	--	<.020	<.10	.040	.66	.70	--	--	<.010	--	<.010
JAN											
03...	--	<.010	.40	<.010	--	<.20	--	--	.019	.03	.020
FEB											
14...	.69	.010	.70	.090	--	<.20	--	--	.010	.03	.010
APR											
05...	--	<.010	.20	.110	.29	.40	.60	2.7	.020	.06	.030
JUN											
07...	--	<.010	<.10	.030	.27	.30	--	--	.010	--	<.010
JUL											
18...	--	<.010	<.10	.030	.27	.30	--	--	.010	--	.010
SEP											
12...	--	<.010	<.10	.020	.28	.30	--	--	.010	--	<.010

K--Results based on colony count outside the acceptable range (non-ideal colony count).

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07068540 LOGAN CREEK AT OXLY, MO--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	18.5	15.5	16.5	14.5	13.5	14.0	8.5	7.0	8.0	1.5	1.5	1.5
2	18.5	16.0	17.0	15.5	14.5	15.0	7.0	6.0	6.5	3.0	1.5	2.0
3	19.5	17.0	18.5	15.5	15.5	15.5	8.0	7.0	7.0	3.0	2.0	3.0
4	19.5	19.0	19.5	16.0	15.0	15.5	8.5	7.0	8.0	3.0	2.0	3.0
5	19.5	18.0	18.5	15.0	12.0	13.5	10.0	8.5	9.5	3.5	2.0	3.0
6	19.0	16.5	18.0	13.0	10.5	11.5	10.0	8.0	9.0	3.5	3.0	3.5
7	18.5	17.0	18.0	12.0	11.0	11.5	8.0	6.0	6.5	3.5	3.0	3.5
8	18.5	16.5	17.0	12.0	11.5	12.0	7.0	6.0	6.5	4.0	3.5	3.5
9	19.0	17.0	18.5	14.0	13.0	13.5	8.0	6.5	7.0	4.5	3.5	4.0
10	18.5	16.5	18.0	13.5	11.5	12.0	7.0	6.5	7.0	4.5	4.0	4.5
11	18.5	16.5	17.0	11.5	10.0	10.5	9.5	7.0	8.5	4.0	2.0	3.0
12	17.0	16.5	17.0	10.0	9.0	9.5	9.0	8.5	8.5	3.5	2.0	3.0
13	16.5	14.5	15.5	10.0	9.0	9.5	8.5	8.5	8.5	3.5	3.0	3.5
14	15.0	13.0	14.0	9.5	9.0	9.0	8.5	6.0	7.0	3.5	3.0	3.0
15	15.0	13.0	14.0	10.0	9.5	9.5	6.0	5.5	5.5	3.5	3.0	3.0
16	15.5	13.5	14.5	10.0	9.5	9.5	5.5	4.5	5.0	3.5	3.5	3.5
17	16.0	15.5	15.5	9.5	8.5	9.0	4.5	3.5	4.0	3.5	2.0	3.0
18	16.0	15.5	15.5	10.5	9.5	10.0	4.0	3.5	3.5	3.0	2.0	2.0
19	16.0	15.5	15.5	13.5	10.5	12.0	3.5	1.5	2.0	2.0	1.5	2.0
20	17.0	15.5	16.0	13.5	13.0	13.5	1.5	1.5	1.5	2.0	1.5	1.5
21	18.0	17.0	17.0	13.0	10.5	11.5	2.0	1.5	2.0	2.0	1.5	1.5
22	18.0	16.5	17.0	13.0	12.0	12.0	2.0	1.5	1.5	2.0	1.5	1.5
23	16.5	16.0	16.0	15.5	13.5	14.5	1.5	1.0	1.0	2.0	1.0	1.5
24	16.0	15.5	15.5	13.5	10.0	11.0	1.5	1.0	1.0	1.5	1.0	1.0
25	15.5	14.5	15.0	10.0	8.5	9.5	1.5	1.5	1.5	3.0	1.5	2.0
26	14.5	12.0	13.5	10.5	9.5	10.0	1.5	1.5	1.5	3.0	2.0	2.0
27	14.0	11.5	13.0	12.0	10.0	11.0	1.5	1.5	1.5	4.0	3.0	3.5
28	14.0	11.5	13.0	12.0	9.0	10.5	1.5	1.5	1.5	5.0	4.0	4.5
29	14.0	12.0	13.5	9.0	8.0	8.5	1.5	1.5	1.5	6.0	4.5	5.0
30	14.5	13.0	14.0	8.5	8.0	8.5	1.5	1.5	1.5	6.0	5.5	5.5
31	14.5	13.0	14.0	---	---	---	1.5	1.5	1.5	6.0	4.0	5.0
MONTH	19.5	11.5	16.0	16.0	8.0	11.5	10.0	1.0	4.5	6.0	1.0	3.0

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	6.0	4.0	5.0	7.0	5.0	6.0	12.0	9.0	10.5	18.5	15.5	17.0
2	6.0	5.0	5.5	9.0	6.0	7.0	12.0	10.5	11.0	18.0	16.5	17.0
3	7.0	6.0	6.5	9.5	7.0	8.5	13.5	10.5	12.0	17.0	16.5	16.5
4	7.0	6.0	6.5	9.5	9.0	9.5	13.0	10.0	11.5	18.0	15.5	16.5
5	6.5	4.5	5.5	9.5	8.5	9.0	13.0	9.5	11.0	18.0	16.5	17.0
6	4.0	3.0	3.5	8.5	6.5	8.0	14.0	10.0	12.0	16.5	14.5	15.5
7	4.0	3.0	3.5	8.0	5.5	6.5	14.0	11.5	13.0	15.0	14.5	14.5
8	4.5	3.5	4.0	8.0	6.0	6.5	12.0	11.5	11.5	17.0	14.0	15.5
9	5.0	4.0	4.5	7.0	5.0	6.0	11.5	11.0	11.5	16.0	13.5	15.0
10	8.5	5.0	6.5	6.5	6.0	6.0	12.0	11.5	11.5	17.0	13.5	15.5
11	10.0	8.5	9.5	8.0	5.5	6.5	14.5	11.0	13.0	19.5	16.5	18.0
12	10.5	9.5	10.0	8.0	6.0	7.0	15.0	13.5	14.5	20.5	18.5	19.5
13	10.0	8.5	9.0	7.0	6.0	6.5	15.5	12.0	14.0	20.5	19.0	19.5
14	10.0	9.0	9.5	8.5	6.0	7.0	15.0	13.0	14.0	21.0	19.0	20.0
15	9.5	7.0	8.5	10.5	8.0	9.0	13.5	12.0	13.0	20.5	18.0	19.0
16	10.5	9.5	10.0	12.0	10.5	11.5	13.5	12.0	13.0	19.0	16.5	18.0
17	11.5	9.5	10.5	12.0	9.5	10.5	14.0	11.5	13.0	18.5	16.0	17.0
18	11.0	9.5	10.0	9.5	8.0	8.5	15.5	11.0	13.5	19.5	16.5	18.0
19	10.0	9.0	9.5	9.5	8.0	8.5	17.0	13.5	15.5	20.5	18.0	19.0
20	10.0	9.0	9.5	9.5	8.5	9.0	17.0	14.0	15.5	20.5	20.0	20.0
21	9.5	7.0	8.5	9.5	8.5	9.0	15.5	13.5	14.5	21.0	20.0	20.5
22	9.5	7.0	8.5	11.5	8.5	10.0	16.5	15.0	16.0	21.5	20.0	20.5
23	9.5	7.0	8.5	12.0	10.0	11.0	16.0	14.0	15.0	23.0	20.5	21.5
24	9.5	9.0	9.0	12.0	11.0	11.5	16.5	12.0	14.5	22.0	19.5	20.5
25	9.5	7.0	8.5	11.5	10.5	11.0	18.5	15.5	16.5	22.0	19.5	21.0
26	9.5	8.5	9.0	11.5	10.5	11.0	19.0	17.0	18.0	22.0	20.0	21.5
27	9.5	6.0	8.0	12.0	11.0	11.5	21.5	18.5	20.0	20.5	18.5	19.5
28	6.0	5.0	5.5	12.0	10.5	11.5	21.5	19.5	20.5	20.0	18.5	19.0
29	6.5	5.0	6.0	12.0	9.0	10.5	21.0	19.0	20.0	19.5	17.0	18.5
30	---	---	---	13.5	10.0	11.5	19.5	16.5	18.5	18.5	16.0	17.0
31	---	---	---	13.0	10.5	11.5	---	---	---	18.5	16.0	17.0
MONTH	11.5	3.0	7.5	13.5	5.0	9.0	21.5	9.0	14.5	23.0	13.5	18.0

07068540 LOGAN CREEK AT OXLY, MO--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	19.5	17.0	18.5	22.0	20.0	21.0	21.5	19.5	20.5	24.5	22.0	23.5
2	21.0	18.5	19.5	23.0	20.0	21.5	22.0	20.0	21.0	24.5	22.0	23.5
3	22.0	20.5	21.5	24.0	21.0	23.0	22.0	20.5	21.0	24.5	23.0	23.5
4	23.0	21.0	22.0	24.0	22.0	23.0	22.0	20.5	21.0	23.0	20.5	21.5
5	23.0	21.0	21.5	23.5	22.0	23.0	23.0	21.0	21.5	21.5	19.5	20.5
6	23.5	22.0	23.0	24.5	21.5	23.5	23.5	21.0	22.0	21.0	19.0	20.0
7	23.0	21.5	22.0	24.0	23.0	23.5	24.0	21.0	22.0	21.0	19.0	20.0
8	23.5	21.5	23.0	24.0	21.5	23.0	24.5	22.0	23.5	21.5	19.5	20.5
9	24.0	21.5	23.0	25.0	22.0	24.0	24.0	22.0	23.0	21.5	20.0	20.5
10	23.5	21.5	23.0	25.5	23.5	24.5	24.0	21.5	23.0	22.0	20.5	21.0
11	24.0	22.0	23.0	26.5	24.0	25.0	23.0	21.0	21.5	23.0	21.0	21.5
12	24.5	22.0	23.5	25.5	24.0	25.0	23.5	21.0	22.0	23.5	21.0	22.0
13	25.0	23.0	24.0	25.0	21.5	23.5	23.5	21.0	22.0	24.0	21.0	23.0
14	25.0	23.0	24.0	25.0	22.0	23.5	23.0	21.5	22.0	23.5	21.5	23.0
15	24.0	23.0	23.5	25.5	24.0	24.5	22.0	21.0	21.5	23.0	20.0	21.0
16	24.5	23.5	24.0	25.5	23.5	24.5	23.0	20.5	21.5	20.0	18.0	19.0
17	25.0	23.5	24.0	24.0	22.0	24.5	23.5	21.0	22.0	18.5	16.0	17.0
18	25.5	23.5	24.5	23.0	20.0	23.0	23.0	21.0	21.5	19.0	16.5	18.0
19	25.5	23.5	24.5	22.0	20.0	21.5	23.0	21.5	22.0	19.0	16.0	18.0
20	24.5	23.5	24.0	22.0	20.0	21.0	23.0	20.5	21.5	19.0	16.0	17.0
21	25.0	23.5	24.0	23.0	20.0	21.0	23.0	20.0	21.0	19.0	16.0	18.0
22	25.5	23.0	24.5	23.5	20.5	22.0	23.5	21.0	22.0	18.5	18.0	18.0
23	25.0	23.5	24.5	23.5	21.0	22.0	23.5	21.0	22.0	18.5	18.0	18.0
24	25.0	23.5	24.0	22.5	21.0	22.0	23.0	20.0	21.0	20.0	18.5	19.5
25	24.5	21.5	23.0	24.0	21.0	22.0	22.0	19.5	20.5	20.5	19.0	20.0
26	24.0	21.0	23.0	23.5	22.0	23.0	22.0	19.5	20.5	19.0	17.0	18.0
27	24.0	21.0	22.0	23.5	21.5	22.0	22.0	19.5	21.0	17.0	15.5	16.0
28	24.0	21.5	22.0	23.0	20.0	21.0	24.0	21.5	23.0	15.5	14.5	15.0
29	23.5	21.5	23.0	21.5	19.5	20.5	25.0	22.0	23.5	15.0	14.5	14.5
30	23.0	21.0	21.5	21.5	19.0	20.0	25.0	23.0	24.0	14.5	13.0	14.0
31	---	---	---	21.5	20.0	20.5	24.5	22.0	23.5	---	---	---
MONTH	25.5	17.0	23.0	26.5	19.0	22.5	25.0	19.5	22.0	24.5	13.0	19.5
YEAR	26.5	1.0	14.5									

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07068540 LOGAN CREEK AT OXLY, MO--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		OCTOBER			NOVEMBER			DECEMBER	
1	2.1	15	.08	4.3	4	.05	33	5	.46
2	2.3	6	.04	22	20	.62	207	18	9.9
3	2.3	14	.09	48	20	.77	616	27	45
4	17	15	.69	219	71	13	370	19	19
5	9.8	4	.11	31	12	.99	133	14	5.1
6	4.1	4	.05	20	12	.63	160	21	9.0
7	3.3	4	.04	15	16	.63	68	9	1.7
8	2.4	4	.03	12	12	.37	48	9	1.2
9	2.3	4	.03	12	11	.37	39	9	.91
10	2.8	9	.06	14	11	.42	39	8	.89
11	2.8	9	.06	13	7	.26	395	51	19
12	4.5	4	.05	11	7	.22	138	10	3.7
13	3.9	4	.04	11	4	.11	77	8	1.6
14	3.7	4	.04	11	4	.10	77	9	2.0
15	3.3	4	.04	12	3	.11	56	7	1.1
16	3.2	4	.04	12	3	.11	39	7	.75
17	3.3	4	.04	11	3	.10	30	5	.42
18	3.5	4	.04	11	3	.10	27	5	.37
19	3.5	4	.04	143	39	15	26	5	.34
20	3.7	4	.04	363	73	72	19	5	.24
21	8.3	12	.28	63	41	6.9	18	5	.22
22	12	25	.80	90	37	9.0	17	1	.07
23	6.6	12	.22	1180	115	154	16	1	.06
24	5.2	4	.06	135	18	6.5	16	1	.06
25	4.5	4	.05	64	9	1.5	16	1	.06
26	4.5	4	.05	40	9	.93	13	1	.04
27	4.3	4	.05	431	98	74	14	2	.09
28	4.3	4	.05	205	41	23	15	2	.09
29	4.3	4	.05	71	8	1.6	14	2	.08
30	4.3	4	.05	36	8	.77	15	2	.08
31	4.1	4	.04	---	---	---	14	3	.11
TOTAL	146.2	---	3.35	3310.3	---	384.16	2765	---	123.64
		JANUARY			FEBRUARY			MARCH	
1	15	5	.18	31	4	.37	35	1	.12
2	12	4	.14	31	6	.52	34	1	.12
3	13	8	.28	34	6	.54	31	1	.11
4	15	5	.22	32	6	.48	78	8	1.7
5	18	5	.25	29	5	.41	130	8	2.9
6	21	4	.25	26	2	.12	74	4	.84
7	19	5	.25	24	2	.10	53	5	.78
8	19	5	.27	22	3	.17	42	5	.60
9	19	4	.22	23	4	.25	35	3	.25
10	24	5	.30	25	4	.25	33	3	.23
11	21	5	.28	25	4	.30	31	2	.21
12	19	5	.27	688	86	291	33	10	.86
13	17	9	.43	212	16	9.3	36	7	.68
14	17	10	.45	101	4	1.1	33	3	.30
15	16	12	.54	72	3	.64	33	2	.20
16	17	15	.70	62	2	.29	34	2	.20
17	16	7	.30	50	0	.12	125	372	148
18	16	7	.31	46	2	.23	477	445	615
19	16	8	.32	41	4	.42	231	79	49
20	16	8	.34	36	4	.38	131	8	3.0
21	17	8	.37	34	3	.28	82	5	1.0
22	16	6	.24	31	1	.09	59	2	.28
23	43	6	.68	30	1	.09	50	0	.11
24	60	3	.49	28	2	.16	57	2	.25
25	66	6	1.0	27	1	.08	61	2	.25
26	62	6	.94	25	1	.08	52	2	.31
27	55	5	.81	30	1	.09	48	3	.36
28	48	8	1.0	35	1	.11	211	18	16
29	44	8	.89	33	1	.11	122	4	1.5
30	38	7	.74	---	---	---	75	3	.61
31	33	7	.61	---	---	---	56	2	.26
TOTAL	828	---	14.07	1883	---	308.08	2582	---	846.03

07068540 LOGAN CREEK AT OXLY, MO--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		APRIL			MAY			JUNE	
1	49	0	.07	28	12	.94	14	7	.26
2	80	4	3.8	27	10	.70	12	3	.11
3	553	19	53	28	7	.50	12	7	.22
4	170	4	1.8	26	3	.25	11	7	.20
5	91	3	.69	28	3	.25	11	7	.20
6	66	3	.54	152	331	48	9.8	---	---
7	53	5	.78	636	447	253	9.4	---	---
8	206	13	9.4	226	60	36	9.0	---	---
9	360	20	18	105	13	3.8	8.7	---	---
10	139	6	2.4	69	3	.62	8.3	---	---
11	88	5	1.2	54	3	.49	8.3	---	---
12	88	9	2.1	47	3	.42	8.0	---	---
13	77	9	1.8	40	3	.36	7.6	---	---
14	58	7	1.0	48	10	1.3	7.3	---	---
15	50	7	.97	36	10	.97	14	---	---
16	46	8	.96	33	7	.60	9.0	---	---
17	40	8	.89	30	3	.27	7.6	---	---
18	36	7	.68	28	3	.25	7.3	---	---
19	34	7	.68	27	3	.24	7.3	---	---
20	34	10	.90	27	3	.24	7.3	---	---
21	36	10	1.0	28	3	.25	7.3	---	---
22	35	13	1.2	27	3	.25	7.0	---	---
23	32	11	.98	25	7	.45	7.0	---	---
24	31	9	.79	23	7	.42	6.3	---	---
25	28	7	.56	22	7	.40	5.8	---	---
26	27	13	.94	22	3	.20	5.6	---	---
27	27	13	.98	56	30	4.6	5.5	---	---
28	24	8	.54	34	24	2.2	7.0	---	---
29	33	12	1.0	22	14	.81	5.8	---	---
30	32	21	1.8	17	17	.78	5.5	---	---
31	---	---	---	15	10	.41	---	---	---
TOTAL	2623	---	111.45	1988	---	359.97	251.9	---	0.99
		JULY			AUGUST			SEPTEMBER	
1	5.2			3.5			4.8	---	---
2	5.0			3.9			4.8	---	---
3	4.5			4.8			5.0	---	---
4	5.0			4.1			5.3	---	---
5	5.8			3.9			5.0	---	---
6	5.2			4.8			4.8	---	---
7	4.8			4.5			4.6	---	---
8	4.3			3.9			4.8	---	---
9	4.1			3.9			8.8	---	---
10	4.5			3.7			7.3	---	---
11	3.6			3.5			5.3	---	---
12	4.1			4.5			5.0	4	.05
13	3.7			4.3			4.5	8	.09
14	3.5			4.1			4.3	11	.13
15	3.9			4.1			4.3	11	.13
16	4.5			4.5			4.1	11	.12
17	4.1			4.3			4.1	11	.12
18	3.9			4.5			3.9	4	.04
19	3.9			4.5			3.9	8	.08
20	3.9			4.1			3.9	8	.08
21	3.7			4.1			3.9	8	.08
22	3.5			6.1			4.3	15	.17
23	3.5			5.3			9.2	23	.56
24	3.5			5.0			6.7	19	.34
25	3.3			5.0			5.0	8	.10
26	3.7			4.8			4.3	4	.04
27	3.9			4.8			4.1	4	.04
28	3.7			5.0			4.1	4	.04
29	3.7			5.0			4.1	4	.04
30	3.5			4.8			3.9	4	.04
31	3.7			4.8			---	---	---
TOTAL	127.2			138.1			148.3	--	2.29
YEAR	16791.0		2154.03						

07068600 LITTLE BLACK RIVER AT SUCCESS, AR

LOCATION.--Lat 36°27'24", long 90°43'32", in NE¼NW¼NW¼ sec.23, T.21 N., R.3. E., Clay County, Hydrologic Unit 11010008, on road fill at the left downstream end of State Highway 211 bridge, 1 mi downstream from Cypress Ditch and at the northwest corner of Success.

DRAINAGE AREA.--386 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1980 to current year.

GAGE.--Water-stage recorder. Datum of gage is 265.89 ft National Geodetic Vertical Datum of 1929.

REMARKS.--Water discharge records good.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 8,630 ft³/s Dec. 5, 1982, gage height, 25.45 ft; minimum, 11 ft³/s August 12, 1982.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 2,590 ft³/s Dec. 6, minimum daily, 24 ft³/s July 15.

DISCHARGE (CUBIC FEET/SECOND) WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	33	51	1650	137	287	315	1090	426	171	62	27	37
2	32	51	1610	139	259	302	969	323	157	56	36	45
3	31	163	1800	143	259	288	1430	283	146	50	54	47
4	40	688	2110	155	265	321	1620	269	137	43	189	41
5	244	949	2490	165	258	667	1640	262	127	92	235	35
6	311	856	2590	213	230	785	1550	385	121	106	209	25
7	176	662	2460	255	206	754	1420	1220	113	102	126	25
8	106	382	2180	257	190	602	1320	1770	106	86	100	25
9	75	231	1770	253	181	474	1610	1950	101	81	69	73
10	57	174	1600	337	183	396	1730	1790	97	64	63	105
11	47	147	1630	331	195	347	1650	1490	92	52	56	118
12	57	135	1660	244	781	323	1530	1190	79	84	50	156
13	56	126	1580	201	1530	334	1410	964	71	66	42	130
14	52	115	1430	175	1680	340	1230	324	81	37	31	99
15	53	107	1260	157	1710	329	1050	598	147	24	28	80
16	52	104	1090	148	1630	666	895	326	84	306	28	70
17	50	104	925	140	1490	827	740	294	83	204	34	63
18	47	102	721	134	1280	1020	558	259	71	112	39	56
19	46	131	549	127	1050	1260	474	234	60	88	43	53
20	45	843	399	125	862	1720	378	221	53	68	46	49
21	50	1190	348	123	673	2410	386	214	56	45	41	45
22	90	1200	277	112	525	2270	409	206	59	40	44	46
23	131	1320	321	133	380	1670	733	193	55	40	59	56
24	112	1730	333	344	311	1260	865	178	54	36	61	135
25	93	2330	250	558	277	1030	670	167	56	32	60	120
26	77	2360	215	622	257	894	494	156	52	27	58	86
27	66	2120	198	567	267	802	390	319	45	26	52	70
28	59	2110	183	492	327	844	322	633	41	28	34	59
29	55	2150	197	442	331	1150	320	371	41	31	30	51
30	53	2000	162	397	---	1290	472	244	62	31	28	51
31	52	---	140	336	---	1260	---	198	---	28	30	---
TOTAL	2448	24631	34128	7962	17874	26950	29315	18017	2618	2147	2002	2051
MEAN	79.0	821	1101	257	616	869	977	581	87.3	69.3	64.6	68.4
MAX	311	2360	2590	622	1710	2410	1730	1950	171	306	235	156
MIN	31	51	140	112	181	288	320	156	41	24	27	25

CAL YR 1983	TOTAL 177572	MEAN	486	MAX	4760	MIN	11
WTR YR 1984	TOTAL 170143	MEAN	465	MAX	2590	MIN	24

07068600 LITTLE BLACK RIVER AT SUCCESS, AR--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--August 1980 to current year.

PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: August 1980 to current year.
SUSPENDED-SEDIMENT DISCHARGE: October 1980 to current year.

INSTRUMENTATION.--Water temperature recorder since August 1980.

EXTREMES FOR PERIOD OF RECORD.--
WATER TEMPERATURE: Maximum, 39.5°C on many days in August 1980; minimum, 0.0°C on many days in January and February 1982.
SUSPENDED-SEDIMENT CONCENTRATIONS: Maximum daily mean, 2,390 mg/L January 24, 1982; minimum daily mean, <1 January 14, 15, and 22, 1981.
SUSPENDED-SEDIMENT LOADS: Maximum daily, 13,900 tons January 24, 1982; minimum daily, 0.16 tons January 15, 16, 19, 21, and 22, 1981.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURE: Maximum, 31.0°C July 10; minimum, 0.0°C many days in January and February.
SUSPENDED-SEDIMENT CONCENTRATIONS: Maximum daily mean, 392 mg/L July 16; minimum daily mean, 4 mg/L February 8-10.
SUSPENDED-SEDIMENT LOADS: Maximum daily, 1,040 tons February 13; minimum daily 1.0 tons July 31.

WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS) (00061)	SPE-CIFIC CON-DUCT-ANCE (UMHOS) (00095)	PH (STAND-ARD UNITS) (00400)	TEMPER-ATURE (DEG C) (00010)	TUR-BID-ITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./100 ML) (31625)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L) (00530)
OCT											
06...	1030	329	169	6.4	19.0	40	2.8	29	3100	2000	92
JAN											
03...	1300	171	232	7.1	1.5	3.3	10.8	77	K11	72	2
FEB											
15...	0745	1579	75	7.6	9.0	60	7.8	68	270	1400	34
APR											
05...	1445	1560	90	7.2	10.5	34	8.6	75	460	480	25
JUN											
07...	1145	105	269	7.6	23.5	24	5.4	62	69	210	66
JUL											
18...	1120	113	219	7.3	24.0	28	4.6	53	130	600	55
SEP											
12...	1130	166	242	7.4	22.5	19	4.5	50	210	K2800	68

DATE	NITRO-GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO-GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	NITRO-GEN, TOTAL (MG/L AS NO3) (71887)	PHOS-PHORUS, TOTAL (MG/L AS P) (00665)	PHOS-PHORUS TOTAL (MG/L AS PO4) (71886)	PHOS-PHORUS, ORTHO, TOTAL (MG/L AS P) (70507)
OCT											
06...	.37	.030	.40	.080	1.7	1.8	2.2	9.7	.290	.89	.200
JAN											
03...	--	<.010	.40	.250	.05	.30	.70	3.1	.010	.03	.010
FEB											
15...	.25	.050	.30	<.010	--	.60	.90	4.0	.090	.28	.080
APR											
05...	.18	.020	.20	.140	.36	.50	.70	3.1	.070	.21	.050
JUN											
07...	--	<.010	.20	.040	.26	.30	.50	2.2	.100	--	.090
JUL											
18...	.18	.020	.20	.080	.72	.80	1.0	4.4	.130	--	.080
SEP											
12...	--	.020	<.10	.030	--	<.20	--	--	.130	--	.060

K--Results based on colony count outside the acceptable range (non-ideal colony count).

07068600 LITTLE BLACK RIVER AT SUCCESS, AR--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	18.5	16.5	17.5	13.5	12.0	13.0	5.5	3.5	4.5	.0	.0	.0
2	19.0	16.5	18.0	14.5	13.5	14.0	3.5	3.0	3.5	.0	.0	.0
3	20.0	17.5	18.5	14.5	14.0	14.0	3.5	3.5	3.5	.0	.0	.0
4	19.5	18.0	18.5	14.5	14.0	14.5	4.5	3.5	4.0	.0	.0	.0
5	18.0	17.0	17.5	14.0	11.0	11.5	6.0	4.5	5.0	.0	.0	.0
6	17.5	17.0	17.0	11.0	10.0	10.5	6.0	4.0	5.5	.5	.0	.0
7	17.5	16.5	17.0	11.0	10.5	10.5	4.0	2.5	3.0	.5	.0	.0
8	[illegible]	16.0	16.5	11.0	10.5	11.0	3.5	2.5	3.0	.5	.0	.0
9	17.5	16.5	17.0	11.5	11.0	11.0	4.5	3.0	3.5	1.0	.0	.0
10	17.0	15.5	16.5	11.5	9.0	10.0	4.5	3.0	3.5	1.0	.0	.5
11	17.0	16.0	16.5	9.0	8.0	8.5	6.0	3.5	5.0	.0	.0	.0
12	16.5	15.0	16.0	8.0	7.0	7.5	6.0	5.5	5.5	.5	.0	.0
13	14.5	13.0	13.5	7.5	7.0	7.5	5.5	5.5	5.5	1.0	.5	.5
14	13.5	11.5	12.5	7.5	7.0	7.0	5.5	3.0	4.5	.5	.0	.0
15	14.0	12.0	13.0	8.0	7.5	7.5	3.0	1.5	2.0	.5	.0	.0
16	14.5	12.0	13.5	7.5	7.0	7.0	1.5	.5	.5	.5	.0	.5
17	15.0	14.5	14.5	7.0	6.0	7.0	.5	.0	.0	.0	.0	.0
18	15.0	14.5	14.5	9.0	7.0	8.0	.5	.0	.0	.0	.0	.0
19	14.5	14.5	14.5	11.0	9.0	10.0	.0	.0	.0	.0	.0	.0
20	16.5	14.5	15.5	11.0	11.0	11.0	.0	.0	.0	.0	.0	.0
21	17.0	16.0	16.5	11.0	10.5	10.5	.0	.0	.0	.0	.0	.0
22	17.0	15.5	16.0	11.0	11.0	11.0	.0	.0	.0	.0	.0	.0
23	15.5	15.0	15.0	12.5	11.0	12.0	.0	.0	.0	.0	.0	.0
24	14.5	14.0	14.5	11.5	9.0	10.0	.0	.0	.0	.0	.0	.0
25	14.0	12.5	13.5	9.0	8.0	8.5	.0	.0	.0	.0	.0	.0
26	12.5	11.0	12.0	8.5	7.5	8.0	.0	.0	.0	.0	.0	.0
27	12.0	11.0	11.5	9.5	8.5	9.0	.0	.0	.0	.0	.0	.0
28	12.5	11.0	11.5	9.0	6.0	7.5	.0	.0	.0	1.5	.0	.0
29	13.0	11.0	12.0	6.0	4.5	5.0	.0	.0	.0	3.0	1.0	2.0
30	13.0	11.0	12.0	5.5	5.0	5.5	.0	.0	.0	3.0	2.5	2.5
31	13.5	11.5	12.5	---	---	---	.0	.0	.0	3.0	2.0	2.5
MONTH	20.0	11.0	15.0	14.5	4.5	9.5	6.0	.0	2.0	3.0	.0	.5

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	3.5	2.0	3.0	5.5	3.5	4.5	11.0	10.0	10.5	17.5	16.0	16.5
2	4.5	3.5	4.0	6.5	4.5	5.5	11.0	10.0	10.5	17.0	16.5	16.5
3	5.0	3.5	4.5	7.5	5.5	6.5	11.0	10.0	10.5	18.0	16.0	17.0
4	5.0	4.0	4.5	8.5	7.0	7.5	11.0	10.0	10.5	18.5	16.5	18.0
5	5.0	2.0	3.5	8.5	7.5	8.0	11.0	9.0	10.0	18.5	17.5	18.0
6	2.0	.0	1.0	7.5	6.0	7.0	13.5	10.0	11.5	17.5	16.0	16.5
7	1.5	.5	1.0	7.0	6.0	6.5	13.0	11.0	11.5	15.5	15.5	15.5
8	2.5	1.0	1.5	7.0	6.0	6.5	11.5	11.0	11.0	16.5	15.0	15.5
9	3.0	2.0	2.0	6.0	4.5	5.5	11.0	11.0	11.0	17.0	15.5	16.0
10	6.0	3.0	4.5	5.5	5.0	5.5	11.0	11.0	11.0	19.0	16.0	17.5
11	8.5	6.0	7.0	6.5	5.0	6.0	14.5	11.0	12.0	20.5	18.5	19.5
12	9.5	5.5	8.5	6.0	5.0	5.5	14.5	.5	13.5	23.5	20.5	21.5
13	9.5	8.5	9.0	6.0	5.0	5.5	15.5	.5	14.0	24.5	22.0	23.0
14	9.5	8.5	9.0	6.5	5.5	6.0	15.5	13.0	14.0	24.0	22.5	23.0
15	10.5	8.5	9.5	9.0	6.5	7.5	12.5	11.5	12.0	23.5	20.0	21.0
16	11.0	9.5	10.5	11.0	9.0	10.5	12.0	11.5	12.0	20.0	18.5	19.5
17	11.0	9.5	10.0	11.0	9.0	9.5	12.5	11.0	11.5	20.5	18.5	19.5
18	11.0	9.5	10.0	9.0	8.0	8.0	14.0	11.0	12.0	21.0	18.5	20.0
19	10.0	8.5	9.0	8.0	7.0	7.5	14.5	12.5	13.5	21.5	20.0	21.0
20	9.0	7.5	8.5	8.0	7.0	7.0	14.0	11.5	13.0	22.0	20.5	21.5
21	9.0	7.5	8.0	7.0	6.5	7.0	14.0	11.5	12.5	22.0	21.0	21.5
22	9.0	7.5	8.0	9.0	6.5	7.5	14.5	13.5	14.0	22.5	21.0	22.0
23	9.0	7.5	8.5	10.0	8.0	9.0	14.0	12.0	13.0	23.5	22.0	22.5
24	9.0	8.0	8.5	10.0	9.0	9.5	14.5	11.0	12.5	23.0	21.0	22.0
25	8.5	7.0	8.0	9.5	9.0	9.0	16.0	14.0	15.0	24.0	21.5	22.5
26	8.5	7.5	8.0	10.5	9.0	9.5	16.0	14.5	15.0	24.0	21.0	22.5
27	7.5	5.0	6.0	11.0	10.0	10.5	17.0	15.0	15.5	21.0	19.0	20.0
28	4.5	3.5	4.0	11.0	9.0	10.0	19.5	17.0	18.5	20.5	18.0	19.5
29	4.5	3.0	3.5	10.5	9.5	9.9	19.0	16.5	18.0	20.5	18.0	19.0
30	---	---	---	11.0	9.5	10.0	18.0	16.5	17.0	19.5	17.5	18.5
31	---	---	--	11.0	9.5	10.0	---	---	---	20.0	17.5	18.5
MONTH	11.0	.0	6.5	11.0	3.5	7.5	19.5	.5	13.0	24.5	15.0	19.5

07068600 LITTLE BLACK RIVER AT SUCCESS, AR--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	21.0	18.5	19.5	26.5	24.0	25.5	27.0	25.5	26.5	27.5	26.5	27.0
2	22.5	20.0	21.0	27.0	25.0	26.0	26.5	25.0	26.0	26.5	25.0	25.5
3	24.0	21.5	22.5	27.5	25.5	27.0	27.0	25.0	26.0	25.0	23.5	24.5
4	24.5	22.5	23.5	27.0	26.0	26.5	27.0	26.5	26.5	25.0	22.0	23.0
5	24.5	23.0	24.0	28.5	26.5	27.5	28.0	26.5	27.0	---	---	---
6	25.5	24.0	24.5	27.5	25.5	26.5	29.0	27.0	28.0	---	---	---
7	25.0	24.0	24.5	27.0	25.0	26.5	29.5	27.0	28.0	---	---	---
8	25.5	24.0	24.5	30.0	26.5	28.5	29.0	26.5	27.5	33.5	18.0	26.5
9	26.0	24.0	25.0	30.5	27.5	29.0	28.5	26.0	27.0	24.0	19.0	22.0
10	26.5	24.5	25.5	31.0	27.5	29.0	28.5	26.5	27.5	24.5	22.5	23.5
11	27.0	25.5	26.0	28.5	26.0	27.5	29.0	26.5	27.5	25.0	24.0	24.5
12	27.0	25.5	26.5	28.0	26.5	27.0	---	---	---	24.5	24.0	24.0
13	28.0	26.0	27.0	---	---	---	---	---	---	26.5	25.0	26.0
14	28.5	24.5	26.5	---	---	---	---	---	---	27.0	25.5	26.5
15	29.5	25.0	27.5	28.5	26.5	27.5	---	---	---	26.0	22.5	24.0
16	29.0	26.5	28.0	28.0	26.0	27.0	27.5	26.0	26.5	22.0	20.0	20.5
17	29.0	27.0	28.0	27.5	25.5	26.5	27.0	26.0	26.5	20.0	18.0	19.5
18	29.0	27.0	28.0	27.0	25.5	26.5	27.0	25.0	26.0	21.0	19.0	20.0
19	29.5	26.5	28.0	28.5	25.5	26.5	28.0	24.0	25.5	21.0	19.0	20.0
20	29.0	26.5	27.5	30.0	26.0	27.5	26.5	23.5	25.5	21.5	18.5	20.0
21	29.0	27.0	28.0	30.0	26.5	27.5	26.5	24.0	25.5	21.0	18.5	20.0
22	30.0	27.5	29.0	---	---	---	24.5	22.5	24.0	20.5	20.5	20.5
23	29.0	27.0	28.0	---	---	---	24.5	22.5	23.5	22.0	20.5	21.5
24	29.0	25.5	27.0	---	---	---	25.0	22.5	24.0	24.0	21.5	23.0
25	27.5	25.5	26.5	---	---	---	25.5	23.0	24.5	24.0	22.0	23.5
26	27.5	25.0	26.0	---	---	---	---	---	---	22.0	19.5	20.0
27	27.5	25.0	26.5	---	---	---	---	---	---	19.0	17.0	17.5
28	27.0	25.5	26.5	---	---	---	---	---	---	17.0	15.5	16.5
29	26.5	24.5	25.5	---	---	---	---	---	---	16.0	15.0	15.5
30	25.5	24.0	25.0	---	---	---	28.5	22.5	26.0	15.0	13.5	14.5
31	---	---	---	28.5	22.0	25.5	26.5	25.5	26.0	---	---	---
MONTH	30.0	18.5	26.0	31.0	17.0	27.0	29.5	19.5	26.0	33.5	13.5	22.0
YEAR	33.5	.0	14.0									

07068600 LITTLE BLACK RIVER AT SUCCESS, AR--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		OCTOBER			NOVEMBER			DECEMBER	
1	33	45	4.0	51	33	4.5	1650	20	89
2	32	39	3.4	51	42	5.8	1610	22	96
3	31	29	2.4	163	195	118	1800	27	131
4	40	70	7.6	688	168	312	2110	20	114
5	244	276	174	949	113	290	2490	16	108
6	311	73	61	856	92	213	2590	14	98
7	176	52	25	662	72	129	2460	16	106
8	106	49	14	382	59	61	2180	15	88
9	75	44	8.9	231	52	32	1770	18	86
10	57	34	5.2	174	44	21	1600	16	69
11	47	27	3.4	147	36	14	1630	20	88
12	57	52	8.0	135	23	8.4	1660	22	99
13	56	42	6.4	126	16	5.4	1580	21	90
14	52	34	4.8	115	17	5.3	1430	19	73
15	53	29	4.2	107	22	6.4	1260	24	82
16	52	26	3.7	104	19	5.3	1090	17	50
17	50	23	3.1	104	17	4.8	925	16	40
18	47	24	3.1	102	18	5.0	721	17	33
19	46	24	3.0	131	15	5.3	549	45	67
20	45	30	3.6	843	133	303	399	39	42
21	50	59	8.0	1190	81	260	348	29	27
22	90	60	15	1200	46	149	277	29	22
23	131	51	18	1320	75	267	321	30	26
24	112	34	10	1730	47	220	333	29	26
25	93	44	11	2330	23	145	250	28	19
26	77	30	6.2	2360	19	121	215	27	16
27	66	31	5.5	2120	21	120	198	25	13
28	59	31	4.9	2110	22	125	183	24	12
29	55	30	4.5	2150	21	122	197	22	12
30	53	27	3.9	2000	23	124	162	16	7.0
31	52	36	5.1	---	---	---	140	13	4.9
TOTAL	2448	---	440.9	24631	---	3202.2	34128	---	1833.9
		JANUARY			FEBRUARY			MARCH	
1	137	10	3.7	287	8	6.2	315	10	8.5
2	139	5	1.9	259	8	5.6	302	13	11
3	143	5	1.9	259	7	4.9	288	15	12
4	155	8	3.3	265	7	5.0	321	54	47
5	165	9	4.0	253	7	4.9	667	90	162
6	213	14	8.1	230	6	3.7	785	45	95
7	255	16	11	206	6	3.3	754	31	63
8	257	13	9.0	190	4	2.1	602	29	47
9	253	11	7.5	181	4	2.0	474	18	23
10	337	11	10	183	4	2.0	396	16	17
11	331	24	21	195	8	4.2	347	12	11
12	244	25	17	781	270	746	323	10	8.7
13	201	14	7.6	1530	252	1040	334	10	9.0
14	175	10	4.7	1680	56	253	340	13	12
15	157	8	3.4	1710	36	166	329	16	14
16	148	11	4.4	1630	33	145	666	198	385
17	140	8	3.0	1490	38	153	827	271	605
18	134	6	2.2	1280	57	197	1020	93	256
19	127	7	2.4	1050	68	193	1260	66	225
20	125	9	3.0	862	83	193	1720	36	167
21	123	7	2.3	673	81	147	2410	17	111
22	112	8	2.4	525	76	108	2270	15	92
23	133	7	2.5	380	60	62	1670	17	77
24	344	19	18	311	56	47	1260	21	71
25	558	26	39	277	40	30	1030	16	44
26	622	18	30	257	19	13	894	17	41
27	567	14	21	267	23	17	802	32	69
28	492	13	17	327	16	14	844	52	119
29	442	13	16	331	10	8.9	1150	29	90
30	397	18	19	---	---	---	1290	17	59
31	336	11	10	---	---	---	1260	14	48
TOTAL	7962	---	306.3	17874	---	3576.8	26950	---	2999.2

07068600 LITTLE BLACK RIVER AT SUCCESS, AR--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		APRIL			MAY			JUNE	
1	1090	13	38	426	22	25	171	32	15
2	969	18	47	323	24	21	157	30	13
3	1430	24	92	283	36	27	146	31	12
4	1620	15	66	269	40	29	137	35	13
5	1640	12	53	262	33	23	127	36	12
6	1550	11	46	385	52	54	121	33	11
7	1420	8	31	1220	91	300	113	33	10
8	1320	12	43	1770	52	248	106	32	9.2
9	1610	17	74	1950	31	163	101	34	9.3
10	1730	13	61	1790	22	106	97	36	9.4
11	1650	9	40	1490	18	72	92	37	9.2
12	1530	9	37	1190	23	74	79	39	8.3
13	1410	10	38	964	31	81	71	44	8.4
14	1230	10	33	824	46	102	81	54	12
15	1050	12	34	598	32	52	147	256	104
16	895	13	31	386	28	29	84	69	16
17	740	14	28	294	30	24	83	56	13
18	558	16	24	259	28	20	71	52	10
19	434	10	12	234	27	17	60	56	9.0
20	378	12	12	221	27	16	53	55	7.9
21	386	14	15	214	28	16	56	50	7.5
22	409	12	13	206	24	13	59	48	7.7
23	733	9	18	193	26	14	55	40	6.0
24	865	8	19	178	25	12	54	41	6.0
25	670	9	16	167	26	12	56	45	6.9
26	494	13	17	156	29	12	52	51	7.2
27	390	28	29	319	138	233	45	44	5.3
28	322	27	23	633	87	149	41	42	4.6
29	320	27	23	371	51	51	41	53	5.9
30	472	27	34	244	39	26	62	50	8.4
31	---	---	---	198	34	18	---	---	---
TOTAL	29315	---	1047	18017	---	2039	2618	---	377.2

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		JULY			AUGUST			SEPTEMBER	
1	62	37	6.2	27	20	1.5	37	23	2.3
2	56	36	5.5	36	15	1.5	45	22	2.7
3	50	33	4.5	54	16	2.3	47	23	2.9
4	43	32	3.7	189	62	32	41	26	2.9
5	92	184	45	235	58	37	35	19	1.8
6	106	55	16	209	47	27	25	18	1.2
7	102	61	17	126	45	15	25	28	1.9
8	86	58	13	100	42	11	25	26	1.8
9	81	38	8.3	69	37	6.9	73	46	9.1
10	64	30	5.2	63	36	6.1	105	40	11
11	52	26	3.6	56	30	4.5	118	45	14
12	84	43	9.8	50	25	3.4	156	44	19
13	66	59	11	42	24	2.7	130	38	13
14	37	42	4.2	31	23	1.9	99	32	8.6
15	24	37	2.4	28	20	1.5	80	35	7.6
16	306	392	347	28	16	1.2	70	40	7.6
17	204	75	41	34	16	1.5	63	41	6.9
18	112	54	16	39	17	1.8	56	40	6.1
19	88	44	10	43	20	2.3	53	40	5.8
20	68	35	6.5	46	20	2.5	49	42	5.5
21	45	30	3.7	41	17	1.9	45	46	5.7
22	40	24	2.6	44	24	2.8	46	49	6.1
23	40	21	2.3	59	25	4.0	56	77	12
24	36	20	2.0	61	21	3.5	135	124	45
25	32	19	1.6	60	21	3.4	120	107	35
26	27	20	1.5	58	23	3.6	86	141	33
27	26	18	1.3	32	21	2.9	70	90	17
28	28	23	1.7	34	21	1.9	59	77	12
29	31	18	1.5	30	22	1.8	51	63	8.8
30	31	18	1.5	28	19	1.4	51	65	8.9
31	28	14	1.0	30	19	1.6	---	---	---
TOTAL	2147	---	596.6	2002	---	192.4	2051	---	315.2
YEAR	170143		16926.7						

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07071000 GREER SPRING AT GREER, MO

LOCATION.--Lat 36°47'11", long 91°20'53", in SE¼SW¼ sec.36, T.25 N., R.4 W., Oregon County, Hydrologic Unit 11010011, on right bank 300 ft downstream from lower outlet of spring, 1 mi north of Greer, and 1 mi upstream from Eleven Point River.

PERIOD OF RECORD.--August to December 1904 (gage heights and discharge measurements only), October 1921 to current year. October to December 1921 monthly discharge only, published in WSP 1311.

GAGE.--Water-stage recorder. Datum of gage is 564.00 ft National Geodetic Vertical Datum of 1929. Aug. 10 to Dec. 31, 1904, nonrecording gage at site 250 ft downstream at different datum. Nov. 17, 1921, to June 25, 1934, nonrecording gage at site 250 ft downstream at datum 0.74 ft lower than present datum.

REMARKS.--Records good. Occasional runoff from drainage area of 2.97 mi² included in records.

AVERAGE DISCHARGE.--63 years, 334 ft³/s, 242,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,770 ft³/s Dec. 3, 1982, includes about 930 ft³/s of surface runoff, gage height, 2.97 ft from rating curve extended above 700 ft³/s maximum excluding surface runoff, 942 ft³/s Dec. 3, 1982; minimum, 104 ft³/s Nov. 16-19, 1956, Jan. 18, 19, 1957.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 654 ft³/s Dec. 4, gage height, 1.51 ft; minimum daily, 226 ft³/s Oct. 31, Nov. 1, 2.

DISCHARGE (CUBIC FEET/SECOND) WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	240	226	577	458	372	368	537	515	405	368	321	281
2	240	226	565	453	368	368	526	510	405	363	321	281
3	240	229	594	448	368	368	542	504	395	363	316	277
4	244	316	642	443	368	400	542	494	395	359	316	277
5	258	368	630	438	363	453	542	489	390	355	312	277
6	262	359	612	433	359	473	537	489	390	355	312	273
7	258	341	600	428	355	478	531	515	386	355	312	273
8	254	329	577	423	350	473	537	548	386	350	312	273
9	254	321	571	419	346	468	565	542	381	350	308	273
10	251	312	560	414	346	463	560	531	377	350	308	273
11	247	300	577	414	346	453	554	521	377	350	308	273
12	247	300	588	409	363	443	548	510	377	350	308	269
13	244	296	588	409	414	438	542	494	377	350	308	266
14	244	292	582	405	419	433	531	483	377	350	308	266
15	240	288	577	400	419	428	526	468	377	346	308	262
16	240	285	571	395	419	428	521	458	409	346	304	262
17	236	281	571	395	414	463	510	448	428	346	304	262
18	236	273	565	390	409	515	510	438	419	341	304	262
19	233	308	548	390	405	571	504	433	409	337	304	262
20	233	510	542	390	400	577	494	438	409	333	304	258
21	236	515	531	386	395	571	499	433	409	333	304	258
22	240	510	526	381	390	560	521	428	400	329	300	266
23	240	594	526	377	386	554	531	428	395	329	300	308
24	236	630	515	377	386	548	531	428	386	329	296	316
25	236	612	504	377	381	548	531	423	386	325	296	308
26	233	600	494	381	377	548	531	423	381	325	292	308
27	233	606	483	381	377	537	526	423	377	325	285	296
28	233	618	473	381	372	548	515	419	372	321	285	288
29	229	600	463	386	372	560	515	409	372	321	285	281
30	229	588	458	381	---	554	526	409	368	321	285	277
31	226	---	458	377	---	542	---	409	---	321	281	---
TOTAL	7472	12033	17068	12539	11039	15131	15885	14460	11715	10596	9407	8306
MEAN	241	401	551	404	381	488	530	466	391	342	303	277
MAX	262	630	642	458	419	577	565	548	428	368	321	316
MIN	226	226	458	377	346	368	494	409	368	321	281	258

CAL YR 1983 TOTAL 136028 MEAN 373 MAX 642 MIN 226
WTR YR 1984 TOTAL 145651 MEAN 398 MAX 642 MIN 226

07071500 ELEVEN POINT RIVER NEAR BARDLEY, MO

LOCATION.--Lat 36°38'55", long 91°12'03", in NE¼SE¼ sec. 17, T.23 N., R.2 W., Oregon County, Hydrologic Unit 11010011, on downstream side of right pier of main truss of bridge on U.S. Highway 160, 7 mi southwest of Bardley, 7.5 mi upstream from Fredericks Fork, and at mile 53.7.

DRAINAGE AREA.--793 mi^2.

WATER DISCHARGE RECORDS

PERIOD OF RECORD.--October 1921 to current year. October 1921 monthly discharge only, published in WSP 1311.

REVISED RECORDS.--WSP 827: 1927-28, 1935. WSP 927: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 410.84 ft National Geodetic Vertical Datum of 1929. Prior to June 26, 1934, nonrecording gage at site 100 ft upstream at datum 0.06 ft higher. June 26, 1934, to Oct. 19, 1939, nonrecording gage, at present site and datum.

REMARKS.--Water discharge records good.

AVERAGE DISCHARGE.--63 years, 754 ft^3/s, 12.91 in/yr, 546,300 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 49,800 ft^3/s Dec. 3, 1982, gage height, 21.64 ft; minimum, 152 ft^3/s Jan. 27, 1956, Jan. 11, 1957.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known, 19.7 ft in August 1915, from floodmarks, discharge, 44,000 ft^3/s from rating curve extended above 25,000 ft^3/s.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 4,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 24	0345	*7,820	9.56
Dec. 4	0745	4,210	6.69

Minimum discharge, 294 ft^3/s Nov. 1-2.

DISCHARGE (CUBIC FEET/SECOND) WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	316	298	1350	847	644	623	1280	1260	838	633	493	385
2	313	316	1370	835	626	634	1250	1190	826	625	474	382
3	313	330	2020	816	614	661	1430	1190	815	614	469	393
4	398	803	3660	815	599	756	1620	1140	805	622	469	384
5	422	962	2500	806	587	1000	1560	1090	795	624	464	377
6	389	724	2040	807	570	1200	1450	1140	798	606	466	373
7	366	645	1780	792	555	1180	1360	1570	792	595	458	371
8	353	588	1620	785	543	1120	1590	2150	776	584	454	370
9	343	556	1480	777	539	1050	2280	1870	761	578	455	473
10	336	533	1390	778	539	997	2120	1680	748	567	452	467
11	336	507	1760	762	537	958	1900	1550	734	564	448	410
12	358	482	2050	751	657	934	1760	1430	724	558	441	392
13	341	470	1820	748	883	915	1640	1320	717	549	435	382
14	332	463	1720	733	902	880	1520	1240	719	543	432	376
15	325	455	1590	727	890	859	1430	1170	773	541	429	367
16	322	439	1440	723	876	844	1350	1120	751	548	425	362
17	322	424	1340	724	850	913	1290	1090	829	537	420	359
18	321	417	1260	713	818	1160	1230	1070	841	531	420	358
19	317	495	1210	702	804	1690	1170	1040	817	520	423	355
20	322	2330	1160	689	770	1730	1130	1040	1110	515	418	353
21	343	1480	1140	680	744	1530	1160	1020	845	509	413	352
22	349	1150	1090	680	729	1380	1280	1000	790	504	440	382
23	349	2940	1040	695	715	1260	1290	974	760	500	420	441
24	336	4820	1010	704	704	1210	1250	946	734	495	410	488
25	325	2040	970	714	681	1200	1210	935	712	490	404	485
26	317	1630	958	726	665	1200	1170	926	695	488	401	623
27	312	1590	952	731	688	1170	1140	932	689	488	401	547
28	309	2100	947	720	668	1290	1090	924	688	482	401	477
29	308	1780	912	711	640	1560	1090	883	661	478	397	443
30	301	1520	883	695	---	1470	1380	861	645	472	395	422
31	300	---	866	668	---	1350	---	847	---	496	390	---
TOTAL	10394	33287	45328	23054	20037	34724	42420	36598	23188	16856	13417	12349
MEAN	335	1110	1462	744	691	1120	1414	1181	773	544	433	412
MAX	422	4820	3660	847	902	1730	2280	2150	1110	633	493	623
MIN	300	298	866	668	537	623	1090	847	645	472	390	352

CAL YR 1983 TOTAL 317469 MEAN 870 MAX 4820 MIN 298
WTR YR 1984 TOTAL 311652 MEAN 852 MAX 4820 MIN 298

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07071500 ELEVEN POINT RIVER NEAR BARDLEY, MO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1983 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS) (00061)	SPE-CIFIC CON-DUCT-ANCE (UMHOS) (00095)	PH (STAND-ARD UNITS) (00400)	TEMPER-ATURE (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L) (00340)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./100 ML) (31625)	HARD-NESS (MG/L AS CACO3) (00900)
OCT										
06...	1250	385	380	7.7	18.5	8.0	83	<10	200	--
NOV										
07...	1320	641	360	7.5	14.5	9.0	86	--	92	190
DEC										
27...	1500	947	291	7.7	7.5	11.0	93	--	K120	--
JAN										
24...	1220	708	342	8.0	9.0	10.6	92	<10	12	170
FEB										
14...	1310	900	327	7.5	13.0	8.2	79	<10	K8	--
MAR										
06...	1205	1220	299	7.3	11.0	11.0	100	18	K15	--
APR										
06...	1210	1460	245	8.0	12.5	11.0	101	12	K30	130
MAY										
03...	1355	1190	312	7.7	15.0	11.2	110	10	55	--
JUN										
08...	0900	779	320	7.6	17.0	6.8	69	32	55	--
JUL										
19...	0950	522	350	7.9	18.5	9.2	95	10	K6	190
AUG										
21...	1400	416	349	7.8	19.0	10.0	105	<10	23	--
SEP										
13...	0930	385	351	7.6	17.5	6.5	66	20	K12	--

DATE	HARD-NESS, NONCAR-BONATE (MG/L CACO3) (00902)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ALKA-LINITY FIELD (MG/L AS CACO3) (00410)	CARBON DIOXIDE DIS-SOLVED (MG/L AS CO2) (00405)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)
OCT										
06...	--	--	--	--	--	210	8.1	--	--	--
NOV										
07...	0	39	22	1.6	1.5	197	12	3.3	2.2	<.10
DEC										
27...	--	--	--	--	--	142	5.5	--	--	--
JAN										
24...	11	35	21	1.7	1.3	163	3.1	3.3	2.3	<.10
FEB										
14...	--	--	--	--	--	163	10	--	--	--
MAR										
06...	--	--	--	--	--	164	16	--	--	--
APR										
06...	3	27	15	1.3	1.3	126	2.4	3.5	2.2	<.10
MAY										
03...	--	--	--	--	--	138	5.3	--	--	--
JUN										
08...	--	--	--	--	--	168	8.2	--	--	--
JUL										
19...	12	40	22	1.6	1.3	179	4.3	2.5	2.1	<.10
AUG										
21...	--	--	--	--	--	176	5.4	--	--	--
SEP										
13...	--	--	--	--	--	189	9.2	--	--	--

K--Results based on colony count outside the acceptable range (non-ideal colony count).

07071500 ELEVEN POINT RIVER NEAR BARDLEY, MO--Continued

DATE	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L) (00530)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	PHOS-PHORUS, TOTAL (MG/L AS P) (00665)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD) (01027)	CADMIUM DIS-SOLVED (UG/L AS CD) (01025)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)
OCT										
06...	--	<1	.40	.020	<.010	--	--	--	--	--
NOV										
07...	191	--	--	--	--	<1	<1	4	4	150
DEC										
27...	--	1	1.0	<.010	.010	--	--	--	--	--
JAN										
24...	168	<2	.80	.010	<.010	<1	<1	7	1	40
FEB										
14...	--	11	.60	.220	.010	--	--	--	--	--
MAR										
06...	--	8	.70	.010	.020	--	--	--	--	--
APR										
06...	131	12	.70	.080	.010	<1	<1	8	2	130
MAY										
03...	--	10	.70	.010	.010	--	--	--	--	--
JUN										
08...	--	9	.60	.020	.010	--	--	--	--	--
JUL										
19...	187	<2	.60	.010	.010	<1	<1	5	2	90
AUG										
21...	--	5	.50	<.010	<.010	--	--	--	--	--
SEP										
13...	--	<1	.50	<.010	.010	--	--	--	--	--

DATE	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB) (01051)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG) (71900)	MERCURY DIS-SOLVED (UG/L AS HG) (71890)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN) (01092)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)
OCT									
06...	--	--	--	--	--	--	--	--	--
NOV									
07...	28	2	3	20	7	<.1	<.1	50	12
DEC									
27...	--	--	--	--	--	--	--	--	--
JAN									
24...	4	4	<1	20	5	<.1	<.1	10	15
FEB									
14...	--	--	--	--	--	--	--	--	--
MAR									
06...	--	--	--	--	--	--	--	--	--
APR									
06...	17	6	<1	50	15	<.1	<.1	50	10
MAY									
03...	--	--	--	--	--	--	--	--	--
JUN									
08...	--	--	--	--	--	--	--	--	--
JUL									
19...	7	1	<1	20	6	<.1	<.1	30	35
AUG									
21...	--	--	--	--	--	--	--	--	--
SEP									
13...	--	--	--	--	--	--	--	--	--

07186000 SPRING RIVER NEAR WACO, MO

LOCATION.--Lat 37°14'44", long 94°33'58", on line between SE¼ sec.7 and NE¼ sec.18, T.29 N., R.33 W., Jasper County, Hydrologic Unit 11070207, on left bank on downstream side of left pier of county highway bridge, 0.8 mi downstream from Blackberry Creek, 1.5 mi east of Waco, and 47.6 mi upstream from mouth.

DRAINAGE AREA.--1,164 mi².

PERIOD OF RECORD.--April 1924 to current year.

REVISED RECORDS.--WSP 1117: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 833.23 ft National Geodetic Vertical Datum of 1929. Prior to Feb. 23 1935, nonrecording gage at same site and datum.

REMARKS.--Records good. Low flow slightly regulated by gristmills above station. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--60 years, 853 ft³/s, 9.95 in/yr, 618,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 103,000 ft³/s May 19, 1943, gage height, 30.94 ft, from floodmark; minimum, 4.2 ft³/s Aug. 28, 1954.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 13,000 ft³/s and maximum (*):

Date	Time	Discharge (ft³/s)	Gage height (ft)
Oct. 21	1030	*19,600	19.95
Mar. 19	2100	18,300	19.36
Apr. 21	2015	14,300	17.27

Minimum discharge, 55 ft³/s Sept. 2.

DISCHARGE (CUBIC FEET/SECOND) WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	87	386	1350	305	641	3160	2130	1080	427	194	96	58
2	85	361	1170	300	590	3560	2330	1020	399	186	90	58
3	82	348	1640	400	571	3500	5780	999	380	179	91	65
4	88	1450	4390	747	560	8700	4590	1050	367	181	89	76
5	89	6770	3410	1120	524	11700	2770	957	354	183	84	75
6	93	5660	1870	1400	482	7390	2080	979	359	178	82	71
7	93	2870	1320	1420	445	3430	1980	1080	354	194	85	61
8	91	1010	1120	1350	424	1960	7520	1170	333	560	80	61
9	89	804	996	1660	431	1600	6630	991	316	1260	76	88
10	87	750	925	4640	628	1410	4990	856	1080	433	87	207
11	99	819	2870	3100	709	1280	2710	770	1220	295	80	158
12	132	847	3660	1650	640	1230	3600	715	611	248	79	117
13	108	741	2490	1130	574	1390	3500	675	458	223	80	99
14	103	654	1520	925	512	1300	2230	640	382	215	75	90
15	99	594	1290	831	463	1210	1680	615	340	207	71	84
16	94	542	985	774	439	1360	1480	597	315	182	72	84
17	1230	502	815	709	425	6650	1330	574	296	180	70	81
18	2040	476	734	662	433	7520	1230	547	280	164	69	79
19	972	934	620	655	477	16600	1110	528	312	158	71	79
20	7560	2050	560	620	476	15500	1350	532	747	145	75	78
21	18600	1560	520	600	440	8830	11000	524	1170	134	70	75
22	12400	1140	490	580	399	3340	12100	516	655	128	78	72
23	7820	5780	460	560	375	2120	6360	487	492	125	74	74
24	3180	5320	425	550	359	2500	2810	463	415	120	61	78
25	1080	3770	395	540	347	2660	1950	444	377	118	63	75
26	815	1720	380	652	604	2370	1660	434	307	116	68	73
27	682	3980	360	810	4290	2780	1470	452	243	113	73	76
28	587	5760	345	841	4670	3880	1310	514	224	108	73	83
29	518	3840	330	816	3660	4950	1220	601	214	104	68	82
30	462	2110	320	806	---	3350	1150	506	205	103	63	80
31	418	---	310	738	---	2150	---	459	---	102	66	---
TOTAL	59883	63568	38070	31891	25588	139380	102050	21775	13632	6836	2359	2537
MEAN	1932	2119	1228	1029	882	4496	3402	702	454	221	76.1	84.6
MAX	18600	6770	4390	4640	1670	16600	12100	1170	1220	1260	96	207
MIN	82	348	310	300	347	1210	1110	434	205	102	61	58

CAL YR 1983 TOTAL 531352 MEAN 1456 MAX 21000 MIN 82
WTR YR 1984 TOTAL 507569 MEAN 1387 MAX 18600 MIN 58

07186400 CENTER CREEK NEAR CARTERVILLE, MO

LOCATION.--Lat 37°08'26", long 94°22'57", in NW¼NW¼NW¼ sec.24, T.28 N., R.32 W., Jasper County, Hydrologic Unit 11070207, on downstream side of right pier of bridge on State Highway HH, 1.5 mi downstream from Grove Creek, 3 mi east of Carterville, and 17 mi above mouth.

DRAINAGE AREA.--232 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1962 to current year.

GAGE.--Water-stage recorder. Datum of gage is 913.21 ft National Geodetic Vertical Datum of 1929 (levels by Missouri State Highway Commission).

REMARKS.--Water discharge records good.

AVERAGE DISCHARGE.--22 years, 190 ft³/s, 11.12 in/yr, 137,700 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 36,300 ft³/s July 3, 1976, gage height, 17.68 ft; minimum, 9.4 ft³/s Aug. 20, 21, 1972.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Oct. 2, 1959, reached a stage of 18.57 ft, from floodmark.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 2,500 ft³/s and maximum (*):

Date	Time	Discharge (ft³/s)	Gage height (ft)
Mar. 4	1515	*4,480	9.96
Apr. 21	0745	3,440	8.78

Minimum discharge, 29 ft³/s Oct. 2.

DISCHARGE (CUBIC FEET/SECOND) WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	33	123	346	100	156	419	624	335	154	72	47	36
2	31	117	321	100	153	515	634	318	146	71	47	38
3	30	121	317	100	149	468	1080	309	140	69	48	49
4	40	125	379	109	145	2750	699	293	135	69	48	44
5	44	114	347	115	140	1400	614	283	130	69	48	41
6	36	111	326	132	132	836	558	276	128	67	48	40
7	34	106	305	148	130	680	534	270	122	75	45	36
8	34	103	285	155	126	585	1050	255	118	77	47	49
9	34	99	270	234	127	517	1160	244	114	67	47	231
10	34	101	258	521	125	461	773	235	167	64	51	124
11	48	99	253	376	121	417	670	227	133	64	49	77
12	66	99	237	343	121	400	682	220	120	63	46	65
13	45	99	231	314	119	376	610	207	113	61	45	57
14	39	97	230	282	115	344	543	203	108	59	45	53
15	36	94	220	263	115	325	510	201	104	58	45	49
16	35	90	209	249	114	304	476	194	100	58	44	44
17	41	85	200	236	111	880	446	182	96	78	43	43
18	43	79	190	220	111	614	420	181	100	68	43	44
19	53	97	180	204	107	1620	399	180	107	64	41	44
20	605	158	170	195	105	877	433	182	102	60	42	41
21	905	181	165	185	103	679	2190	180	118	58	42	36
22	428	168	155	180	103	591	913	174	101	56	44	38
23	343	326	150	170	102	534	689	165	95	55	44	41
24	291	340	140	165	99	628	596	159	89	54	40	37
25	250	303	135	160	99	582	536	155	83	53	40	36
26	217	280	130	161	192	538	483	152	80	52	39	36
27	196	572	125	162	352	616	445	171	78	52	39	40
28	176	566	120	163	391	925	406	233	77	50	43	40
29	160	435	115	166	381	882	381	191	76	49	41	34
30	147	392	110	164	---	662	359	175	73	48	37	33
31	132	---	105	159	---	612	---	164	---	48	37	---
TOTAL	4606	5680	6724	6231	4344	22037	19913	6714	3307	1908	1365	1576
MEAN	149	189	217	201	150	711	664	217	110	61.5	44.0	52.5
MAX	905	572	379	521	391	2750	2190	335	167	78	51	231
MIN	30	79	105	100	99	304	359	152	73	48	37	33

CAL YR 1983	TOTAL	96215	MEAN	264	MAX	6000	MIN 30
WTR YR 1984	TOTAL	84405	MEAN	231	MAX	2750	MIN 30

BEST COPY AVAILABLE

07186400 CENTER CREEK NEAR CARTERVILLE, MO.--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--August 1962 to September 1975, October 1979 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	TIME	AGENCY ANALYZING SAMPLE (CODE NUMBER) (00028)	STREAMFLOW, INSTANTANEOUS (CFS) (00061)	SPECIFIC CONDUCTANCE (UMHOS) (00095)	PH (STANDARD UNITS) (00400)	TEMPERATURE (DEG C) (00010)	OXYGEN, DISSOLVED (MG/L) (00300)	OXYGEN, DISSOLVED (PERCENT SATURATION) (00301)	OXYGEN DEMAND, CHEMICAL (LOW LEVEL) (MG/L) (00335)	OXYGEN DEMAND, CHEMICAL (HIGH LEVEL) (MG/L) (00340)	COLIFORM, FECAL, 0.7 UM-MF (COLS./100 ML) (31625)
OCT 19...	1230	29001	42	411	7.6	16.5	5.4	55	6	--	210
NOV 08...	1215	29001	103	360	7.6	13.5	8.0	76	7	--	210
DEC 08...	1330	29001	284	301	7.3	8.0	10.8	91	<5	--	50
JAN 05...	1300	29001	114	358	7.9	5.5	12.8	101	9	--	20
FEB 08...	1445	29001	126	335	8.0	8.5	12.6	106	<5	--	K4
MAR 07...	1300	29001	674	272	7.6	10.5	9.2	82	9	--	380
APR 04...	1500	29001	683	230	7.7	10.0	9.0	80	<5	--	K600
MAY 10...	1345	29001	234	320	8.3	18.0	11.0	117	<5	--	38
JUN 07...	1435	29001	122	534	7.9	23.0	7.7	90	<5	--	K100
JUL 12...	1525	80020	74	396	8.0	27.0	6.8	85	--	17	60
AUG 08...	1630	80020	50	380	7.8	28.5	6.6	85	--	12	110
SEP 13...	1445	80020	57	380	7.4	26.5	4.4	54	--	20	200

DATE	HARDNESS (MG/L AS CACO3) (00900)	HARDNESS, NONCARBONATE (MG/L CACO3) (00902)	CALCIUM DISSOLVED (MG/L AS CA) (00915)	MAGNESIUM, DISSOLVED (MG/L AS MG) (00925)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	POTASSIUM, DISSOLVED (MG/L AS K) (00935)	ALKALINITY FIELD (MG/L AS CACO3) (00410)	CARBON DIOXIDE DISSOLVED (MG/L AS CO2) (00405)	SULFATE DISSOLVED (MG/L AS SO4) (00945)	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)
OCT 19...	170	51	62	4.1	12	1.9	121	5.9	23	16
NOV 08...	--	--	--	--	--	--	130	6.3	--	--
DEC 08...	--	--	--	--	--	--	112	11	--	--
JAN 05...	140	16	49	3.4	9.2	1.6	121	2.9	28	10
FEB 08...	--	--	--	--	--	--	115	2.2	--	--
MAR 07...	--	--	--	--	--	--	94	4.6	--	--
APR 04...	110	20	41	2.0	4.4	1.8	91	3.5	14	7.0
MAY 10...	--	--	--	--	--	--	120	1.2	--	--
JUN 07...	--	--	--	--	--	--	123	3.0	--	--
JUL 12...	140	22	51	3.1	10	1.6	118	2.3	13	11
AUG 08...	--	--	--	--	--	--	106	3.2	--	--
SEP 13...	--	--	--	--	--	--	108	8.3	--	--

K--Results based on colony count outside the acceptable range (non-ideal colony count).

07186400 CENTER CREEK NEAR CARTERVILLE, MO--Continued

DATE	FLUORIDE, DISSOLVED (MG/L AS F) (00950)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L) (70300)	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MG/L) (00530)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITROGEN, AMMONIA TOTAL (MG/L AS N) (00610)	PHOSPHORUS, TOTAL (MG/L AS P) (00665)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD) (01027)	CADMIUM DISSOLVED (UG/L AS CD) (01025)	COPPER, TOTAL RECOVERABLE (UG/L AS CU) (01042)	COPPER, DISSOLVED (UG/L AS CU) (01040)
OCT 19...	.20	260	3	11	2.90	.060	<2	<2	<5	<5
NOV 08...	--	--	4	5.7	1.00	.060	--	--	--	--
DEC 08...	--	--	3	4.8	.530	.110	--	--	--	--
JAN 05...	.30	222	1	9.0	4.10	.100	<2	<2	12	8
FEB 08...	--	--	3	5.2	1.20	.050	--	--	--	--
MAR 07...	--	--	22	4.2	.600	.100	--	--	--	--
APR 04...	.20	170	19	3.2	.300	.090	<2	<2	<5	<5
MAY 10...	--	--	1	5.4	1.10	<.050	--	--	--	--
JUN 07...	--	--	16	5.4	.450	.090	--	--	--	--
JUL 12...	.20	220	11	.40	.590	.070	<1	<1	9	3
AUG 08...	--	--	9	7.5	.710	.070	--	--	--	--
SEP 13...	--	--	8	9.4	2.20	.250	--	--	--	--

DATE	IRON, TOTAL RECOVERABLE (UG/L AS FE) (01045)	IRON, DISSOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOVERABLE (UG/L AS PB) (01051)	LEAD, DISSOLVED (UG/L AS PB) (01049)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN) (01055)	MANGANESE, DISSOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOVERABLE (UG/L AS HG) (71900)	MERCURY DISSOLVED (UG/L AS HG) (71890)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN) (01092)	ZINC, DISSOLVED (UG/L AS ZN) (01090)
OCT 19...	270	20	<5	<5	41	36	<.2	.2	20	29
NOV 08...	--	--	--	--	--	--	--	--	--	--
DEC 08...	--	--	--	--	--	--	--	--	--	--
JAN 05...	170	<20	<5	<5	65	58	<.2	.4	30	23
FEB 08...	--	--	--	--	--	--	--	--	--	--
MAR 07...	--	--	--	--	--	--	--	--	--	--
APR 04...	650	30	<5	<5	62	32	<.2	<.2	40	19
MAY 10...	--	--	--	--	--	--	--	--	--	--
JUN 07...	--	--	--	--	--	--	--	--	--	--
JUL 12...	260	6	4	<1	30	17	.1	<.1	40	12
AUG 08...	--	--	--	--	--	--	--	--	--	--
SEP 13...	--	--	--	--	--	--	--	--	--	--

07186480 CENTER CREEK NEAR SMITHFIELD, MO.

WATER-QUALITY RECORDS

LOCATION.--Lat 37°09'20", long 94°36'10", NE¼ sec.14, T.28 N., R.34 W., Jasper County, Hydrologic Unit 11070207, at bridge on county road, 1 mi south of Smithfield.

PERIOD OF RECORD.--October 1968 to July 1975, July 1977 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	TIME	AGENCY ANALYZING SAMPLE (CODE NUMBER) (00028)	STREAMFLOW, INSTANTANEOUS (CFS) (00061)	SPECIFIC CONDUCTANCE (UMHOS) (00095)	PH (STANDARD UNITS) (00400)	TEMPERATURE (DEG C) (00010)	OXYGEN, DISSOLVED (MG/L) (00300)	OXYGEN, DISSOLVED (PERCENT SATURATION) (00301)	OXYGEN DEMAND, CHEMICAL (LOW LEVEL) (MG/L) (00335)	OXYGEN DEMAND, CHEMICAL (HIGH LEVEL) (MG/L) (00340)	COLIFORM, FECAL, 0.7 UM-MF (COLS./100 ML) (31625)
OCT											
19...	1345	29001	68	509	7.9	16.5	7.4	75	10	--	160
NOV											
08...	1115	29001	240	428	7.9	13.5	9.8	94	6	--	84
DEC											
08...	1410	29001	380	356	7.6	8.0	12.2	102	<5	--	55
JAN											
05...	1400	29001	285	440	7.7	5.5	12.0	95	<5	--	72
FEB											
08...	1520	29001	155	420	8.1	9.0	13.8	118	<5	--	K2
MAR											
07...	1400	29001	920	321	7.7	10.5	3.8	78	7	--	220
APR											
04...	1600	29001	960	293	7.6	10.0	9.6	85	<5	--	1100
MAY											
10...	1215	29001	350	356	8.1	17.0	11.4	118	<5	--	48
JUN											
07...	1315	29001	230	380	8.1	23.0	9.7	113	6	--	84
JUL											
12...	1715	80020	82	460	8.2	28.0	7.4	94	--	33	18
AUG											
08...	1730	80020	72	434	8.1	29.0	9.2	119	--	18	150
SEP											
13...	1630	80020	56	398	7.9	26.5	7.4	91	--	40	120

DATE	HARDNESS (MG/L AS CACO3) (00900)	HARDNESS, NONCARBONATE (MG/L CACO3) (00902)	CALCIUM DISSOLVED (MG/L AS CA) (00915)	MAGNESIUM, DISSOLVED (MG/L AS MG) (00925)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	POTASSIUM, DISSOLVED (MG/L AS K) (00935)	ALKALINITY FIELD (MG/L AS CACO3) (00410)	CARBON DIOXIDE DISSOLVED (MG/L AS CO2) (00405)	SULFATE DISSOLVED (MG/L AS SO4) (00945)	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)
OCT										
19...	220	110	79	4.7	17	2.2	106	2.6	68	16
NOV										
08...	--	--	--	--	--	--	127	3.1	--	--
DEC										
08...	--	--	--	--	--	--	109	5.3	--	--
JAN										
05...	--	--	--	4.0	8.9	1.7	115	4.4	67	9.0
FEB										
08...	--	--	--	--	--	--	118	1.8	--	--
MAR										
07...	--	--	--	--	--	--	91	3.5	--	--
APR										
04...	130	32	48	2.2	5.2	1.9	97	4.7	31	6.0
MAY										
10...	--	--	--	--	--	--	119	1.8	--	--
JUN										
07...	--	--	--	--	--	--	120	1.8	--	--
JUL										
12...	180	59	66	3.4	13	1.7	120	1.5	44	11
AUG										
08...	--	--	--	--	--	--	109	1.7	--	--
SEP										
13...	--	--	--	--	--	--	98	2.4	--	--

K--Results based on colony count outside the acceptable range (non-ideal colony count).

07186480 CENTER CREEK NEAR SMITHFIELD, MO--Continued

DATE	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L) (00530)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	PHOS-PHORUS, TOTAL (MG/L AS P) (00665)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD) (01027)	CADMIUM DIS-SOLVED (UG/L AS CD) (01025)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)
OCT										
19...	.30	350	1	13	.060	.150	<2	<2	<5	<5
NOV										
08...	--	--	5	5.4	.030	.080	--	--	--	--
DEC										
08...	--	--	4	5.2	.180	.090	--	--	--	--
JAN										
05...	.30	281	<1	8.8	2.70	.130	3	<2	<5	<5
FEB										
08...	--	--	4	6.7	.370	.060	--	--	--	--
MAR										
07...	--	--	24	3.8	.340	.120	--	--	--	--
APR										
04...	.10	200	22	3.4	.130	.100	3	<2	<5	<5
MAY										
10...	--	--	29	3.8	.010	.070	--	--	--	--
JUN										
07...	--	--	14	6.3	<.010	.100	--	--	--	--
JUL										
12...	.30	258	4	.20	.030	.090	1	<1	8	2
AUG										
08...	--	--	10	9.0	.020	.080	--	--	--	--
SEP										
13...	--	--	4	7.9	.010	.180	--	--	--	--

DATE	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB) (01051)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG) (71900)	MERCURY DIS-SOLVED (UG/L AS HG) (71890)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN) (01092)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)
OCT										
19...	220	30	<5	<5	44	40	<.2	<.2	480	350
NOV										
08...	--	--	--	--	--	--	--	--	--	--
DEC										
08...	--	--	--	--	--	--	--	--	--	--
JAN										
05...	380	<20	10	<5	89	83	<.2	<.2	670	560
FEB										
08...	--	--	--	--	--	--	--	--	--	--
MAR										
07...	--	--	--	--	--	--	--	--	--	--
APR										
04...	850	60	7	<5	63	33	<.2	<.2	490	330
MAY										
10...	--	--	--	--	--	--	--	--	--	--
JUN										
07...	--	--	--	--	--	--	--	--	--	--
JUL										
12...	210	6	10	<1	40	26	.1	<.1	190	130
AUG										
08...	--	--	--	--	--	--	--	--	--	--
SEP										
13...	--	--	--	--	--	--	--	--	--	--

07187000 SHOAL CREEK ABOVE JOPLIN, MO

LOCATION.--Lat 37°01'23", long 94°30'58", in SE¼NE¼NE¼ sec.34, T.27 N., R.33 W., Newton County, Hydrologic Unit 11070207, on right bank 250 ft upstream from mouth of Spring Creek, 1,400 ft downstream from bridge on State Highway 86, 0.5 mi south of city limits of Joplin and 13.2 mi above mouth.

DRAINAGE AREA.--427 mi^2.

PERIOD OF RECORD.--October 1941 to current year.

REVISED RECORDS.--WSP 1117: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 886.87 ft National Geodetic Vertical Datum of 1929. Prior to July 21, 1966, water-stage recorder at site 1.8 mi upstream, at datum 15.5 ft higher.

REMARKS.- Records fair. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--43 years, 391 ft^3/s, 12.43 in/yr, 283,300 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 62,100 ft^3/s May 18, 1943, gage height, 16.8 ft, former site and datum; minimum, 12 ft^3/s Sept. 7, 1954.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 7,830 ft^3/s Mar. 5, gage height, 10.86 ft, no other peak above base of 6,000 ft^3/s; minimum, 84 ft^3/s Oct. 4.

DISCHARGE (CUBIC FEET/SECOND) WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	89	204	398	190	199	458	1230	733	472	204	127	92
2	87	200	369	190	199	516	1210	707	455	199	130	99
3	86	197	359	190	199	591	1640	694	435	197	141	118
4	99	195	361	188	196	3510	1460	673	417	215	136	110
5	114	184	355	179	186	4900	1280	651	401	224	140	104
6	113	181	345	186	179	1830	1180	638	398	208	148	97
7	99	169	330	209	176	1480	1010	624	385	201	127	91
8	93	162	318	228	176	1290	1370	602	366	215	130	100
9	95	163	296	300	177	1160	1800	578	357	210	127	145
10	101	169	286	500	176	1090	1520	559	399	189	132	175
11	108	169	285	450	174	1050	1470	539	361	181	158	133
12	151	160	273	400	171	1010	1390	537	337	183	137	113
13	125	154	264	375	169	990	1310	529	326	175	127	105
14	109	151	265	345	164	972	1270	521	314	170	120	97
15	100	150	256	320	161	946	1210	520	305	167	117	95
16	97	148	243	295	161	914	1190	519	296	168	117	91
17	108	146	237	280	160	1100	1150	511	280	182	115	89
18	121	140	224	270	156	1200	1120	503	275	179	112	89
19	129	176	223	255	151	1720	1090	505	289	163	111	89
20	673	228	220	250	151	1770	1120	523	280	157	106	89
21	1010	251	210	240	146	1320	2010	530	304	153	104	87
22	686	258	210	235	143	1130	1710	508	310	151	106	89
23	542	381	205	230	143	1010	1300	488	273	146	110	94
24	450	410	200	220	137	1040	1150	468	261	140	106	99
25	379	395	200	220	138	1000	1040	452	246	140	101	94
26	332	381	195	217	193	951	968	441	233	140	102	96
27	296	597	195	213	359	956	915	585	231	140	103	105
28	267	656	195	213	446	1190	850	775	217	138	111	112
29	247	597	195	210	448	1590	803	630	219	137	106	107
30	229	458	195	206	---	1360	770	552	213	134	99	99
31	217	---	195	203	---	1240	---	510	---	127	95	---
TOTAL	7352	7830	8102	8007	5634	41284	37536	17605	9655	5333	3701	3103
MEAN	237	261	261	258	194	1332	1251	568	322	172	119	103
MAX	1010	656	398	500	448	4900	2010	775	472	224	158	175
MIN	86	140	195	179	137	458	770	441	213	127	95	87

CAL YR 1983 TOTAL 150637 MEAN 413 MAX 5860 MIN 81
WTR YR 1984 TOTAL 155142 MEAN 424 MAX 4900 MIN 86

07189000 ELK RIVER NEAR TIFF CITY, MO

LOCATION.--Lat 36°37'50", long 94°35'12", in NE¼ sec.22, T.22 N., R.34 W., McDonald County, Hydrologic Unit 11070208, on downstream side of second pier from right bank of bridge on State Highway 43, 0.8 mi downstream from Blackfoot Branch, 2.8 mi upstream from Buffalo Creek, 3.0 mi southeast of Tiff City, and at mile 15.8.

DRAINAGE AREA.--872 mi^2.

PERIOD OF RECORD.--October 1939 to current year.

REVISED RECORDS.--WSP 927: 1940. WSP 1117: Drainage area.

GAGE.--Water stage recorder. Datum of gage is 750.6. ft National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers). Sept. 6, 1960 to Aug. 25, 1961, at site 100 ft downstream.

REMARKS.--Records good.

AVERAGE DISCHARGE.--45 years, 767 ft^3/s, 11.94 in/yr, 555,700 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 137,000 ft^3/s Apr. 19, 1941, gage height, 28.4 ft, from floodmark, from rating curve extended above 60,000 ft^3/s on basis of slope-area measurement of peak flow; minimum daily, 5.1 ft^3/s Sept. 5, 6, 1954.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 9.000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)
Mar. 5	0230	9,030	11.21
Mar. 19	2400	*10,500	12.14

Minimum daily discharge, 46 ft^3/s Sept. 20.

DISCHARGE (CUBIC FEET/SECOND) WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	125	145	547	182	210	1140	2660	855	966	169	101	65
2	129	144	474	179	209	1080	2390	793	819	160	101	61
3	122	140	432	177	206	1140	3950	770	717	155	103	63
4	129	148	405	174	206	2760	4350	716	638	152	104	65
5	129	190	393	170	201	6750	3240	681	580	149	104	65
6	123	226	384	168	197	3610	2540	663	547	148	118	64
7	115	225	370	184	193	2500	2080	646	507	144	125	60
8	106	208	352	204	190	1870	2100	850	469	147	112	58
9	95	196	332	223	190	1500	4110	802	439	182	109	67
10	81	190	315	254	190	1270	4570	754	412	177	113	70
11	77	190	301	287	190	1100	3470	694	390	161	108	74
12	88	189	289	312	190	963	2790	640	364	158	106	71
13	90	181	275	321	190	894	2360	604	340	154	98	65
14	91	176	266	311	190	813	1990	566	321	149	99	60
15	86	169	256	292	183	750	1780	558	305	141	97	57
16	81	163	245	275	182	716	1590	560	289	138	90	55
17	86	155	233	260	183	821	1420	533	272	135	84	50
18	98	150	222	249	181	1220	1280	505	261	131	81	48
19	140	194	214	242	178	7780	1160	495	254	127	77	47
20	276	329	208	236	178	7260	1100	473	264	125	73	46
21	396	353	203	232	176	3850	1740	517	259	125	69	47
22	379	322	200	229	173	2660	3160	490	265	125	73	49
23	329	318	199	226	171	2020	2430	460	253	121	78	54
24	279	314	198	221	171	1950	1930	430	239	116	77	64
25	242	337	197	218	167	2060	1630	408	224	113	76	74
26	213	352	195	218	198	1930	1420	401	210	114	72	87
27	202	414	192	218	709	1770	1260	550	204	113	71	131
28	185	589	190	218	1640	2950	1120	2010	196	113	77	144
29	171	768	169	217	1340	7610	1010	2000	187	113	81	144
30	161	661	188	214	---	4760	929	1450	179	112	73	128
31	152	---	186	213	---	3280	---	1180	---	107	69	---
TOTAL	4976	8136	8650	7124	8582	80777	67559	23054	11370	4274	2819	2133
MEAN	161	271	279	230	296	2606	2252	744	379	138	90.9	71.1
MAX	396	768	547	321	1640	7780	4570	2010	966	182	125	144
MIN	77	140	186	168	167	716	929	401	179	107	69	46

CAL YR 1983	TOTAL	248849	MEAN	682	MAX	27300	MIN	51
WTR YR 1984	TOTAL	229454	MEAN	627	MAX	7780	MIN	46

07189000 ELK RIVER NEAR TIFF CITY, MO.--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--August 1962 to June 1963; November 1965 to July 1975; October 1980 to September 1981; October 1982 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS) (00061)	SPECIFIC CONDUCTANCE (UMHOS) (00095)	PH (STANDARD UNITS) (00400)	TEMPERATURE (DEG C) (00010)	OXYGEN, DISSOLVED (MG/L) (00300)	OXYGEN, DISSOLVED (PERCENT SATURATION) (00301)	OXYGEN DEMAND, CHEMICAL (LOW LEVEL) (MG/L) (00335)	OXYGEN DEMAND, CHEMICAL (HIGH LEVEL) (MG/L) (00340)	COLIFORM, FECAL, 0.7 UM-MF (COLS./100 ML) (31625)
NOV										
08...	1400	208	284	7.9	15.0	10.0	99	<5	--	76
DEC										
08...	1015	352	287	8.1	7.5	13.6	112	--	11	14
JAN										
05...	1015	187	280	7.9	3.5	13.4	100	--	--	52
FEB										
08...	1300	190	277	8.3	6.5	14.8	118	--	40	1
MAR										
07...	1030	2500	249	7.9	9.0	10.8	92	--	10	110
APR										
04...	1230	4350	229	7.8	10.0	10.4	91	--	20	420
MAY										
10...	0930	754	254	8.3	16.5	10.9	111	--	<10	41
JUN										
07...	1100	507	264	8.0	21.0	8.6	96	--	28	100
JUL										
12...	1345	158	290	8.2	28.5	11.5	146	--	34	180
AUG										
08...	1430	107	260	8.3	31.0	9.2	123	--	24	20
SEP										
13...	1200	65	274	7.7	27.5	7.6	95	--	20	18

DATE	HARDNESS (MG/L AS CACO3) (00900)	HARDNESS, NONCARBONATE (MG/L CACO3) (00902)	CALCIUM DISSOLVED (MG/L AS CA) (00915)	MAGNESIUM, DISSOLVED (MG/L AS MG) (00925)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	POTASSIUM, DISSOLVED (MG/L AS K) (00935)	ALKALINITY FIELD (MG/L AS CACO3) (00410)	CARBON DIOXIDE DISSOLVED (MG/L AS CO2) (00405)	SULFATE DISSOLVED (MG/L AS SO4) (00945)	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)
NOV										
08...	--	--	--	--	--	--	124	3.0	--	--
DEC										
08...	--	--	--	--	--	--	130	2.0	--	--
JAN										
05...	140	16	51	2.9	4.4	1.3	124	3.0	7.8	7.9
FEB										
08...	--	--	--	--	--	--	118	1.1	--	--
MAR										
07...	--	--	--	--	--	--	100	2.4	--	--
APR										
04...	110	19	39	2.2	2.5	1.4	88	2.7	8.1	4.5
MAY										
10...	--	--	--	--	--	--	115	1.1	--	--
JUN										
07...	--	--	--	--	--	--	126	2.4	--	--
JUL										
12...	130	16	49	2.8	4.1	1.8	118	1.4	6.0	6.3
AUG										
08...	--	--	--	--	--	--	112	1.1	--	--
SEP										
13...	--	--	--	--	--	--	115	4.4	--	--

07189000 ELK RIVER NEAR TIFF CITY, MO--Continued

DATE	FLUORIDE, DISSOLVED (MG/L AS F) (00950)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L) (70300)	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MG/L) (00530)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITROGEN, AMMONIA TOTAL (MG/L AS N) (00610)	PHOSPHORUS, TOTAL (MG/L AS P) (00665)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD) (01027)	CADMIUM DISSOLVED (UG/L AS CD) (01025)	COPPER, TOTAL RECOVERABLE (UG/L AS CU) (01042)	COPPER, DISSOLVED (UG/L AS CU) (01040)
NOV										
08...	--	--	<1	.88	.040	<.050	--	--	--	--
DEC										
08...	--	--	3	1.7	<.010	.030	--	--	--	--
JAN										
05...	<.10	175	4	1.6	.010	.030	2	<1	<1	1
FEB										
08...	--	--	<2	1.4	<.010	.010	--	--	--	--
MAR										
07...	--	--	18	2.3	.020	.050	--	--	--	--
APR										
04...	<.10	132	24	1.7	.070	.040	<1	<1	5	2
MAY										
10...	--	--	<2	1.2	.010	.030	--	--	--	--
JUN										
07...	--	--	4	1.0	.010	.030	--	--	--	--
JUL										
12...	<.10	151	5	.40	.030	.040	<1	<1	4	1
AUG										
08...	--	--	7	.40	.020	.070	--	--	--	--
SEP										
13...	--	--	5	.40	<.010	.090	--	--	--	--

DATE	IRON, TOTAL RECOVERABLE (UG/L AS FE) (01045)	IRON, DISSOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOVERABLE (UG/L AS PB) (01051)	LEAD, DISSOLVED (UG/L AS PB) (01049)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN) (01055)	MANGANESE, DISSOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOVERABLE (UG/L AS HG) (71900)	MERCURY DISSOLVED (UG/L AS HG) (71890)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN) (01092)	ZINC, DISSOLVED (UG/L AS ZN) (01090)
NOV										
08...	--	--	--	--	--	--	--	--	--	--
DEC										
08...	--	--	--	--	--	--	--	--	--	--
JAN										
05...	60	19	2	1	10	2	<.1	<.1	30	11
FEB										
08...	--	--	--	--	--	--	--	--	--	--
MAR										
07...	--	--	--	--	--	--	--	--	--	--
APR										
04...	340	8	2	<1	20	4	.3	<.1	30	9
MAY										
10...	--	--	--	--	--	--	--	--	--	--
JUN										
07...	--	--	--	--	--	--	--	--	--	--
JUL										
12...	70	5	4	<1	20	3	.1	<.1	<10	4
AUG										
08...	--	--	--	--	--	--	--	--	--	--
SEP										
13...	--	--	--	--	--	--	--	--	--	--

Crest-stage partial-record stations

The following table contains annual maximum discharges for crest-stage stations. A crest-stage gage is a device which will register the peak stage occurring between inspections of the gage. A stage-discharge relation for each gage is developed from discharge measurements made by indirect measurements of peak flow or by current meter. The date of the maximum discharge is not always certain but is usually determined by comparison with nearby continuous-record stations, weather records, or local inquiry. Only the maximum discharge for each water year is given. Information on some lower floods may have been obtained but is not published herein. The years given in the the period of record represent water years for which the annual maximum has been determined.

Annual maximum discharge at crest-stage partial-record stations, water year 1984.

Station no.	Station name	Location	Drainage area (sq mi)	Period of record	Annual maximum		
					Date	Gage height (feet)	Dis-charge (ft^3/s)
		Fox River basin					
05495100	Big Branch tributary near Wayland (discontinued)	Lat 40°18'52", long 91°34'34", in NW¼SW¼ sec.29, T.64 N., R.6 W., Clark County, at culvert under U.S. Highway 61 and 5.6 mi south of Wayland.	0.70	1955-65 1966-69 1970-84	7-26-84	7.29	170
		Kings Lake basin					
05513600	Camp Creek near Elsberry	Lat 39°06'54", long 90°46'26", in SW portion survey 1724, T.50 N., R.2 E., at downstream end of double 12 ft. box culvert (right side of barrel) on State Highway 79 about one mile upstream from C.B. & Q. railroad crossing and 3.6 mi south of Elsberry, Lincoln County, Missouri.	1.50	1954-84	2-26-84	1.97	54
		Platte River (Iowa-Missouri) basin					
06818900	Platte River at Ravenwood	Lat 40°20'42", long 94°41'09", in SE¼SE¼ sec.14, T.64 N., R.34 W., Nodaway County, on downstream side of left pier of U.S. Highway 136 bridge, 0.8 mi west of Ravenwood.	486	1922-71‡ 1972-84	6-9-84	11.70	5,200
06820300	Big Slough near Wilcox	Lat 40°23'23", long 94°55'32", on south line of SW¼ sec.35, T.65 N., R.36 W., at culvert on U.S. Highway 71, 3 mi southeast of Wilcox, Nodaway County.	1.30	1949-84	6-9-84	4.60	580
06821130	First Creek near Nashua (discontinued)	Lat 39°17'20", long 94°35'05", in NW¼SW¼ sec.26, T.52 N., R.33 W., Clay County, at culvert on farm road 150 ft east of U.S. Highway 169, and 1 mi south of Nashua.	0.55	1959-65 1966-74‡ 1975-84	3-20-84	7.83	19
		Shoal Creek basin					
06895000	Crooked River near Richmond	Lat 39°20'00", long 93°58'45", in NW¼NW¼ sec.7, T.52 N., R.27 W., Ray County, on downstream side of third pier from left end of bridge on State Highway 13, 4.0 mi upstream from West Fork Crooked River, and 24.5 mi upstream from mouth.	159	1948-70 1971-84	6- -84	12.45	638
		Platte River (Iowa-Missouri) basin					
06896000	Wakenda Creek at Carrollton	Lat 39°20'50", long 93°29'45", in NE¼SE¼ sec.5, T.52 N., R.23 W., Carroll County, on left bank near U.S. Highway 65 bridge in Carrollton.	248	1948-70‡ 1972-84	6- -84	7.85	38
06897000	East Fork Big Creek near Bethany	Lat 40°17'50", long 94°01'36", in SE¼ sec.34, T.64 N., R.28 W., Harrison County on right bank 50 ft downstream from bridge on old U.S. Highway 69, 2 mi north of Bethany and 4 mi upstream from confluence with West Fork.	95	1934-84	6-9-84	14.69	3,300
06897700	Grand River tributary near Utica (discontinued)	Lat 39°44'21", long 93°38'18", in SW¼NE¼ sec.19, T.57 N., R.24 W., Livingston County, at culvert under U.S. Highway 36, 0.2 mi west of Utica.	1.44	1958-84	6-9-84	13.16	660

Annual maximum discharge at crest-stage partial-record stations, water year 1984--Continued

Station no.	Station name	Location	Drainage area (sq mi)	Period of record	Annual maximum Date	Annual maximum Gage height (feet)	Annual maximum Discharge (ft^3/s)
		Chariton River basin					
06904300	Shoal Creek near Hartford	Lat 40°29'00", long 92°46'20", in NE¼NE¼ sec.35, T.66 N., R.17 W., Putnam County, at bridge on U.S. Highway 136, 3 mi northeast of Hartford.	155	1963-84	4-22-84	26.18	9,400
06905000	Chariton River at Elmer	Lat 39°56'58", long 92°39'43", in E½ sec.3, T. 59 N., R.16 W., Macon County, at bridge on County Road J, 0.8 mi southwest of Elmer.	1,660	1921-30‡ 1961-84	6-9-84	26.13	20,000
06906400	Middle Fork Chartion River at Thomas Hill	Lat 39°30'51", long 92°39'53", in NE¼NE¼ sec.2, T.54 N., R.16 W., Randolph County, at bridge on State Highway 3, ½ mi SW of Thomas Hill.	150	1962-84	4-26-84	11.78	550
		Lamine River basin					
06907000	Lamine River at Clifton City	Lat 38°45'26", long 93°01'20", in NW¼ sec.16, T.46 N., R.19 W., Cooper County, on downstream side of highway bridge, 0.8 mi east of Clifton City.	598	1922-71‡ 1972-84	6-13-84	11.32	2,940
06907700	Blackwater River at Valley City	Lat 38°52'10", long 93°37'15", in SW¼NW¼ sec.13, T.47 N., R.25 W., Johnson County, attached to downstream end of left steel pier of bridge on County highway E, ½ mi upstream from Blackjack Creek, ½ mi northwest of Valley City, one mi downstream from Clear Creek, 8 mi northwest of Knobnoster, 9 mi northeast of Warrensburg.	547	1958-84	6-13-84	25.99	8,580
06908500	Shiloh Branch near Marshall	Lat 39°06'59", long 93°05'48", in NW¼ sec.15 T.50 N., R.20 W., Saline County, at culvert on State Highway 41, in front of Shiloh Church, 5.5 mi east of Marshall.	2.87	1952-65 1966-84	6-13-84	5.87	80
		Bonne Femme Creek basin					
06909400	Cottonwood Creek tributary at Estill (discontinued)	Lat 39°02'56", long 92°44'39", in NW¼SW¼NE¼ sec.17, T.49 N., R.16 W., Howard County, at culvert under State Highway 5, 0.2 mi north of Estill and 2 mi north of New Franklin.	0.30	1958-84	6-13-84	7.40	70
		Moniteau Creek basin					
06909500	Moniteau Creek near Fayette	Lat 39°07'15", long 92°33'40", in SE¼SE¼ sec.14, T.50 N., R.15 W., Howard County, at "Buoy" bridge, 1 mi downstream from Hungry Mother Creek, 7 mi east of Fayette and 15 mi upstream from mouth.	81	1948-60 1962-69‡ 1979-84	+	17.80	2,460
		Moreau River basin					
06910500	Moreau River near Jefferson City	Lat 38°31'44", long 92°11'31", in SE¼NW¼SE¼ sec.25, T.44 N., R.12 W., Cole County, on downstream side of bridge on Tanner Pridge Road, 3 mi south of Jefferson City.	561	1947-74‡ 1975-84	6-9-84	24.83	14,700
		Osage River basin					
06918200	North Fork Panther Creek tributary near Appleton City (discontinued)	Lat 38°11'38", long 94°04'53", in NE¼SW¼ sec.2, T.39 N., R.29 W., Bates County, at culvert under State Highway 52, 0.25 mi south of Hudson, 3 mi west of Appleton City, and 18 mi southeast of Butler.	0.08	1955-84	+	+	+

DISCHARGE AT PARTIAL-RECORD STATIONS

Annual maximum discharge at crest-stage partial-record stations, water year 1984--Continued

Station no.	Station name	Location	Drainage area (sq mi)	Period of record	Annual maximum		
					Date	Gage height (feet)	Discharge (ft^3/s)
		Osage River basin--Continued					
06918750	Franca Branch near Brighton (discontinued)	Lat 37°29'57", long 93°21'00", in SE¼NW¼SE¼ sec.16, T.32 N., R.22 W., Polk County, at culvert under State Highway 13, 3 mi north of Brighton, and 8.7 mi southeast of Bolivar.	0.59	1955-84	+	+	+
06919200	Sac River tributary near Caplinger Mills (discontinued)	Lat 37°48'22", long 93°51'00", in NE¼NE¼ sec.13, T.35 N., R.27 W., Cedar County, at culvert under State Highway 39, 6.2 mi south of junction of U.S. Highway 54 and State Highway 39, 2.5 mi west of Caplinger Mills and 10.5 mi southeast of Eldorado Springs.	0.14	1955-62 1963-84	+	+	+
06921720	Big Creek at Blairstown	Lat 38°33'17", long 93°57'54", in NE¼SW¼ sec.36, T.44 N., R.28 W., Henry County, on downstream side of right bridge pier on County Highway N, 0.3 mi west of Blairstown, 0.8 mi downstream from Bear Creek and 1.5 mi upstream from Brushy Creek.	414	1960-84	6-10-84	24.08	+
06921800	Grandaddy Creek near Urich (discontinued)	Lat 38°21'48", long 94°00'47", in NW¼NW¼SW¼ sec.10, T.41 N., R.28 W., Henry County at culvert under County Road K, 0.3 mi north of junction of County Road K and State Highway 18 and 6.5 mi south of Urich.	0.92	1958-75 1976-84	6-10-84	8.53	320
06925200	Starks Creek at Preston	Lat 37°56'30", long 93°11'30", in NW¼SW¼ sec.24, T.37 N., R.21 W., Hickory County, attached right downstream wingwall of U.S. Highway 54 bridge, 0.6 mi east of Preston.	4.18	1956-76‡ 1977-84	6-9-84	8.02	850
06927000	Maries River at Westphalia	Lat 38°25'55", long 91°59'23", in NE¼ sec.35, T.43 N., R.10 W., Osage County, at bridge on U.S. Highway 63, 0.8 mi southeast of Westphalia, 1.2 mi downstream from Little Maries Creek, and at mile 9.9.	257	1947-70‡ 1971-84	6-9-84	13.25	10,600
		Gasconade River basin					
06927600	Wheeler Branch near Mountain Grove (discontinued)	Lat 37°06'51", long 92°16'36", in SW¼NE¼ sec.17, T.28 N., R.12 W., Wright County, on State Highway D, 0.8 mi southwest of Mountain Grove.	1.34	1955-84	+	+	+
06934000	Gasconade River at Rich Fountain	Lat 38°23'20", long 91°49'15", in SE¼ sec.16, T.42 N., R.8 W., on downstream side of bridge on State Highway 89, 100 ft downstream from Brush Creek Slough, 800 ft upstream from Swan Creek, and 4 mi east of Rich Fountain, and 53 mi above mouth.		1921-59 1959-84	+	+	+
		Meramec River basin					
07011200	Love Creek near Salem	Lat 37°38'10", long 91°33'35", in W½NE¼ sec.23, T 34 N., R.6 W., Dent County, at culvert under State Highways 32 and 72, 0.5 mi west of Salem.	0.89	1955-59 1960-63f 1964-84	+	4.65	365
07011600	Love Branch at Rolla (discontinued)	Lat 37°56'23", long 91°46'11", in NE¼NE¼SE¼ sec.11, T.37 N., R.8 W., Phelps County at culvert under State Highway 72, 0.5 mi from junction U.S. 63 and 72, in Rolla.	1.72	1978-84	6-16-84	3.13	720
07015800	Langenberg Branch near Rosebud (discontinued)	Lat 38°23'03", long 91°25'41", in SE¼NE¼ sec.13, T.42 N., R.5 W., Gasconade County, at culvert under State Highway 28, 1.7 mi west of Rosebud.	0.64	1960-64 1966-70f 1971-84	+	+	+

Annual maximum discharge at crest-stage partial-record stations, water year 1984--Continued

Station no.	Station name	Location	Drainage area (sq mi)	Period of record	Annual maximum Date	Annual maximum Gage height (feet)	Annual maximum Discharge (ft^3/s)
		St. Francis River basin					
07035500	Barnes Creek near Fredericktown	Lat 37°34'20", long 90°23'00", in SW¼SE¼ sec.4, T.33 N., R.6 E., Madison County, on Highway 72 bridge, 5.3 mi west of Fredericktown.	4.03	1956-75‡ 1976-84	†	†	†
		White River basin					
07050800	Maple Grove Branch near Ozark (discontinued)	Lat 37°04'20", long 93°13'08", in SE¼NE¼ sec.3, T.27 N., R.21 W., Christian County, at culvert under State Highway NN, 3.4 mi north of Ozark.	0.64	1967-65 1966-71f 1972-84	†	†	†
07066800	Sycamore Creek near Winona	Lat 37°02'49", long 91°19'30", in SW¼ sec.31, T.28 N., R.3 W., Shannon County, on left bank just upstream from culvert under State Highway 19, about 3 mi north of Winona.	0.86	1954-84	†	†	†
		Arkansas River basin					
07185600	South Fork Stahl Creek near Miller (discontinued)	Lat 37°11'11", long 93°50'20", in NE¼NE¼ sec.35, T.29 N., R.27 W., Lawrence County, at culvert on State Highway 39, 2 mi south of Miller.	0.94	1951-70 1976-79d 1982-84	†	†	†

† Not determined.
‡ Operated as continuous-record gaging station.
f Discharge measurements, daily gage-height, and rainfall records available.
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Water-quality partial-record stations are sites where chemical-quality, biological and or sediment data are collected systematically over a period of years for use in hydrologic analysis. The data are collected usually less than quarterly.

WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	STREAM-FLOW, INSTAN-TANEOUS (CFS) (00061)	SPE-CIFIC CON-DUCT-ANCE (UMHOS) (00095)	PH (STAND-ARD UNITS) (00400)	TEMPER-ATURE (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./100 ML) (31625)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	ALKA-LINITY FIELD (MG/L AS CACO3) (00410)	NITRO-GEN, NITRITE TOTAL (MG/L AS N) (00615)
07064400 - MONTAUK SPRINGS AT MONTAUK, MO (LAT 37 27 36 LONG 091 40 59)									
MAY , 1984									
15...	123	218	7.4	13.0	9.8	32	18	206	<.010
SEP									
18...	77	302	7.4	13.5	7.0	24	45	152	<.010
07064440 - CURRENT RIVER BELOW MONTAUK STATE PARK (LAT 37 27 01 LONG 091 29 41)									
MAY , 1984									
15...	181	222	7.7	14.0	13.2	24	10	109	<.010
SEP									
18...	100	296	7.9	14.0	8.9	26	39	135	<.010
07064530 - WELCH SPRING NEAR AKERS MO (LAT 37 23 38 LONG 091 34 25)									
MAY , 1984									
15...	271	248	7.4	13.5	10.2	14	10	129	<.010
SEP									
18...	172	313	7.4	14.0	8.9	600	K980	164	<.010
07064555 - PULLTITE SPRING NEAR ROUND SPRING, MO (LAT 37 20 03 LONG 091 29 24)									
MAY , 1984									
15...	141	217	7.3	13.0	10.2	26	6	103	<.010
SEP									
20...	52	316	7.6	14.0	8.6	K2	K87	165	<.010
07065000 - ROUND SPRING AT ROUND SPRING MO (LAT 37 16 57 LONG 091 24 27)									
MAY , 1984									
17...	52	225	7.2	13.0	9.4	64	38	109	<.010
SEP									
18...	23	346	7.5	14.0	8.8	K1	K1	187	<.010
07065500 - ALLEY SPRING AT ALLEY MO (LAT 37 09 14 LONG 091 26 29)									
MAY , 1984									
16...	297	187	7.3	13.5	9.4	52	40	79	<.010
SEP									
19...	116	314	7.7	14.0	9.1	K8	K10	169	<.010
07066110 - JACKS FORK ABOVE TWO RIVERS (LAT 37 10 53 LONG 091 17 36)									
MAY , 1984									
16...	775	250	7.6	15.0	9.4	24	8	132	<.010
SEP									
19...	170	346	8.3	18.5	9.4	K17	K12	196	<.010
07066510 - CURRENT RIVER ABOVE POWDER MILL (LAT 37 10 32 LONG 091 12 48)									
MAY , 1984									
16...	2350	265	7.7	14.5	10.0	40	7	126	<.010
SEP									
19...	722	334	8.3	17.0	9.2	K6	K9	182	<.010

K--Results based on colony count outside the acceptable range (non-ideal colony count).

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WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	PHOS-PHORUS, TOTAL (MG/L AS P) (00665)	PHOS-PHORUS TOTAL (MG/L AS PO4) (71886)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD) (01027)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB) (01051)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG) (01077)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN) (01092)
07064400 - MONTAUK SPRINGS AT MONTAUK, MO (LAT 37 27 36 LONG 091 40 59)									
MAY , 1984									
15...	.80	.010	.40	.010	.03	<1	<1	<1	30
SEP									
18...	1.0	<.010	<.20	.010	.03	<1	4	<1	70
07064440 - CURRENT RIVER BELOW MONTAUK STATE PARK (LAT 37 27 01 LONG 091 29 41)									
MAY , 1984									
15...	.50	.020	.50	.020	.06	<1	<1	<1	20
SEP									
18...	.90	.010	<.20	.010	.03	<1	3	<1	30
07064530 - WELCH SPRING NEAR AKERS MO (LAT 37 25 38 LONG 091 34 25)									
MAY , 1984									
15...	.70	.010	.70	.010	.03	<1	<1	<1	30
SEP									
18...	.90	<.010	<.20	.010	.03	<1	<1	<1	20
07064555 - PULLTITE SPRING NEAR ROUND SPRING, MO (LAT 37 20 03 LONG 091 29 24)									
MAY , 1984									
15...	.50	.060	<.20	.010	.03	<1	<1	<1	30
SEP									
20...	.70	<.010	<.20	<.010	--	<1	2	<1	20
07065000 - ROUND SPRING AT ROUND SPRING MO (LAT 37 16 57 LONG 091 24 27)									
MAY , 1984									
17...	.40	.010	.30	.010	.03	<1	<1	<1	50
SEP									
18...	.40	<.010	<.20	<.010	--	<1	5	<1	90
07065500 - ALLEY SPRING AT ALLEY MO (LAT 37 09 14 LONG 091 26 29)									
MAY , 1984									
16...	.60	.040	.40	.010	.03	<1	2	<1	20
SEP									
19...	.70	<.010	<.20	<.010	--	1	2	<1	20
07066110 - JACKS FORK ABOVE TWO RIVERS (LAT 37 10 53 LONG 091 17 36)									
MAY , 1984									
16...	.30	.010	.40	.010	.03	<1	1	<1	10
SEP									
19...	.40	.020	<.20	<.010	--	<1	3	<1	40
07066510 - CURRENT RIVER ABOVE POWDER MILL (LAT 37 10 32 LONG 091 12 48)									
MAY , 1984									
16...	.30	.010	.30	<.010	--	<1	1	<1	20
SEP									
19...	.40	<.010	<.20	<.010	--	<1	1	<1	20

ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD STATIONS--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	STREAM-FLOW, INSTAN-TANEOUS (CFS) (00061)	SPE-CIFIC CON-DUCT-ANCE (UMHOS) (00095)	PH (STAND-ARD UNITS) (00400)	TEMPER-ATURE (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	ALKA-LINITY FIELD (MG/L AS CACO3) (00410)	NITRO-GEN, NITRITE TOTAL (MG/L AS N) (00615)
07066550 - BLUE SPRING NEAR EMINENCE, MO. (LAT 37 09 58 LONG 091 09 47)									
MAY , 1984									
16...	254	120	7.3	12.0	10.0	10	20	56	<.010
SEP									
19...	116	307	7.8	14.0	9.8	K6	K6	159	<.010
07067500 - BIG SPRING NEAR VAN BUREN MO (LAT 36 57 05 LONG 090 59 36)									
MAY , 1984									
17...	626	242	7.3	13.0	9.0	32	28	141	<.010
SEP									
20...	413	354	7.6	15.0	9.6	<1	K6	196	<.010
07067800 - CURRENT RIVER BELOW HAWES CAMPGROUND (LAT 36 49 08 LONG 090 56 48)									
MAY , 1984									
16...	3750	253	7.5	17.0	10.4	9	1	123	<.010
SEP									
19...	1300	335	8.3	19.5	10.0	K2	K1	186	<.010

WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	NITROGEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITROGEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N) (00625)	PHOSPHORUS, TOTAL (MG/L AS P) (00665)	PHOSPHORUS TOTAL (MG/L AS PO4) (71886)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD) (01027)	LEAD, TOTAL RECOVERABLE (UG/L AS PB) (01051)	SILVER, TOTAL RECOVERABLE (UG/L AS AG) (01077)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN) (01092)
07066550 - BLUE SPRING NEAR EMINENCE, MO. (LAT 37 09 58 LONG 091 09 47)									
MAY , 1984									
16...	.60	.020	.30	.010	.03	<1	2	<1	30
SEP									
19...	.40	<.010	<.20	<.010	--	1	4	<1	10
07067500 - BIG SPRING NEAR VAN BUREN MO (LAT 36 57 05 LONG 090 59 36)									
MAY , 1984									
17...	.50	.010	.30	.010	.03	<1	<1	<1	20
SEP									
20...	.40	<.010	<.20	<.010	--	<1	4	<1	40
07067800 - CURRENT RIVER BELOW HAWES CAMPGROUND (LAT 36 49 08 LONG 090 56 48)									
MAY , 1984									
16...	.30	.010	.50	.010	.03	<1	<1	<1	20
SEP									
19...	.30	<.010	<.20	<.010	--	1	4	<1	40

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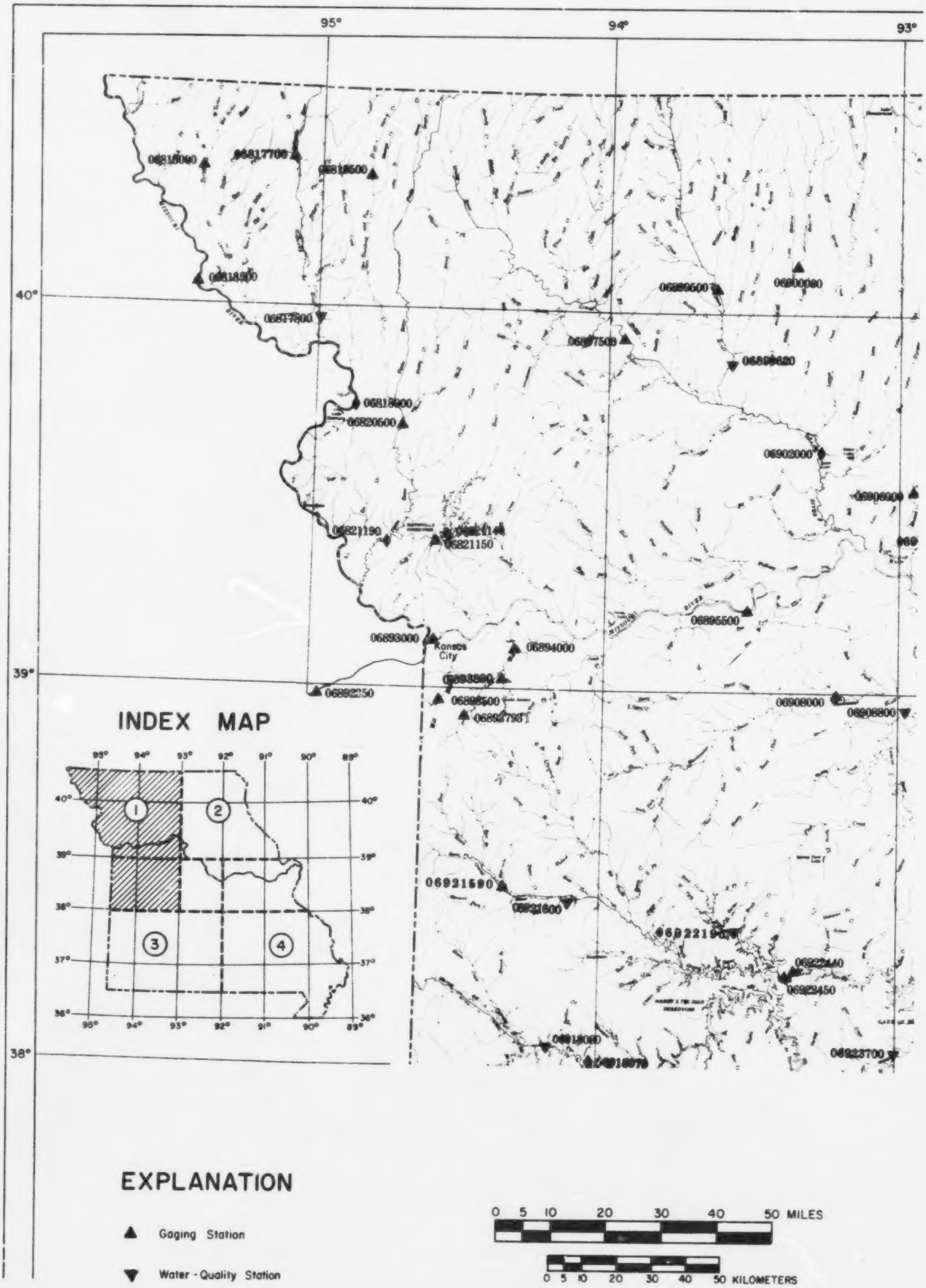
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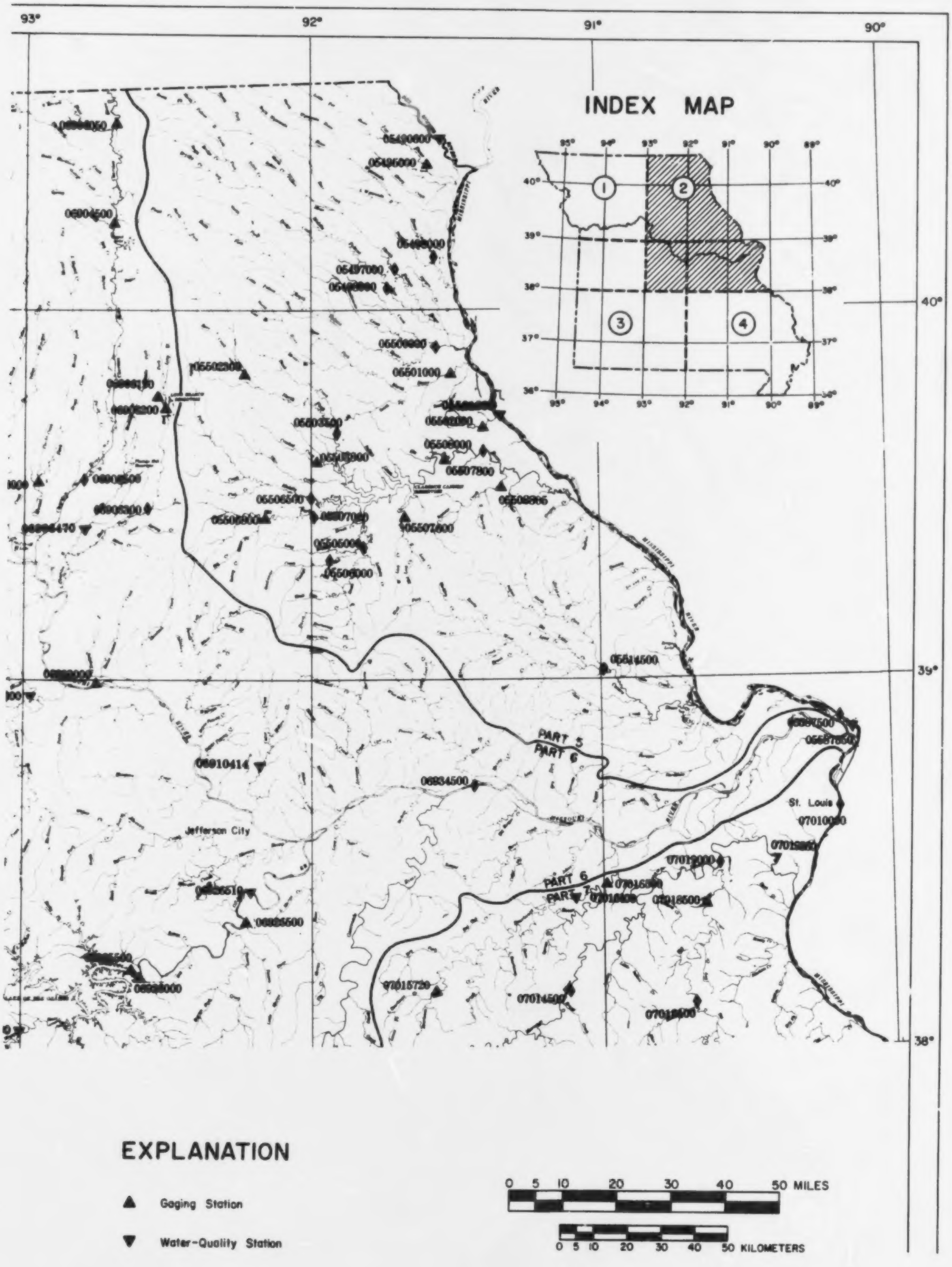
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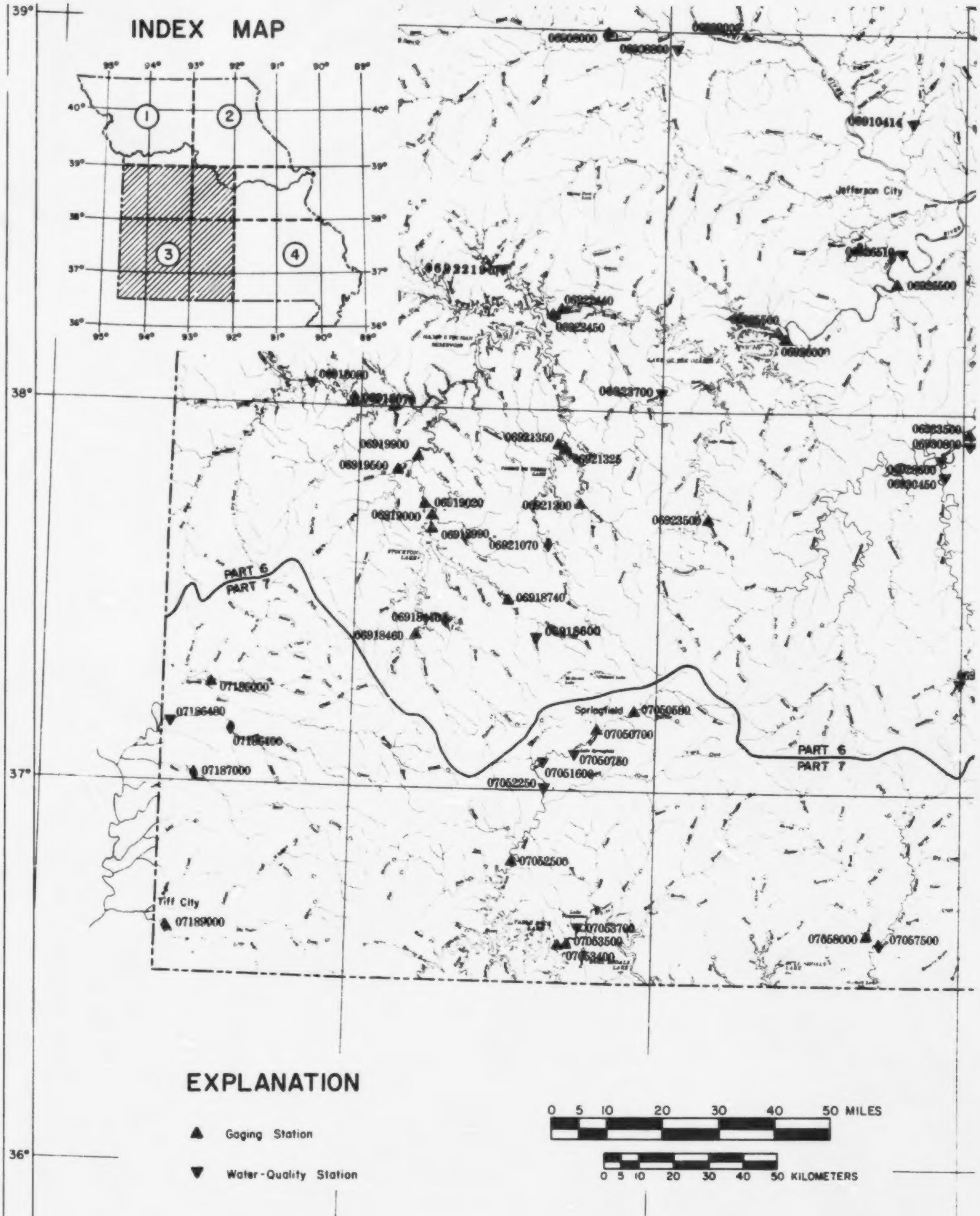
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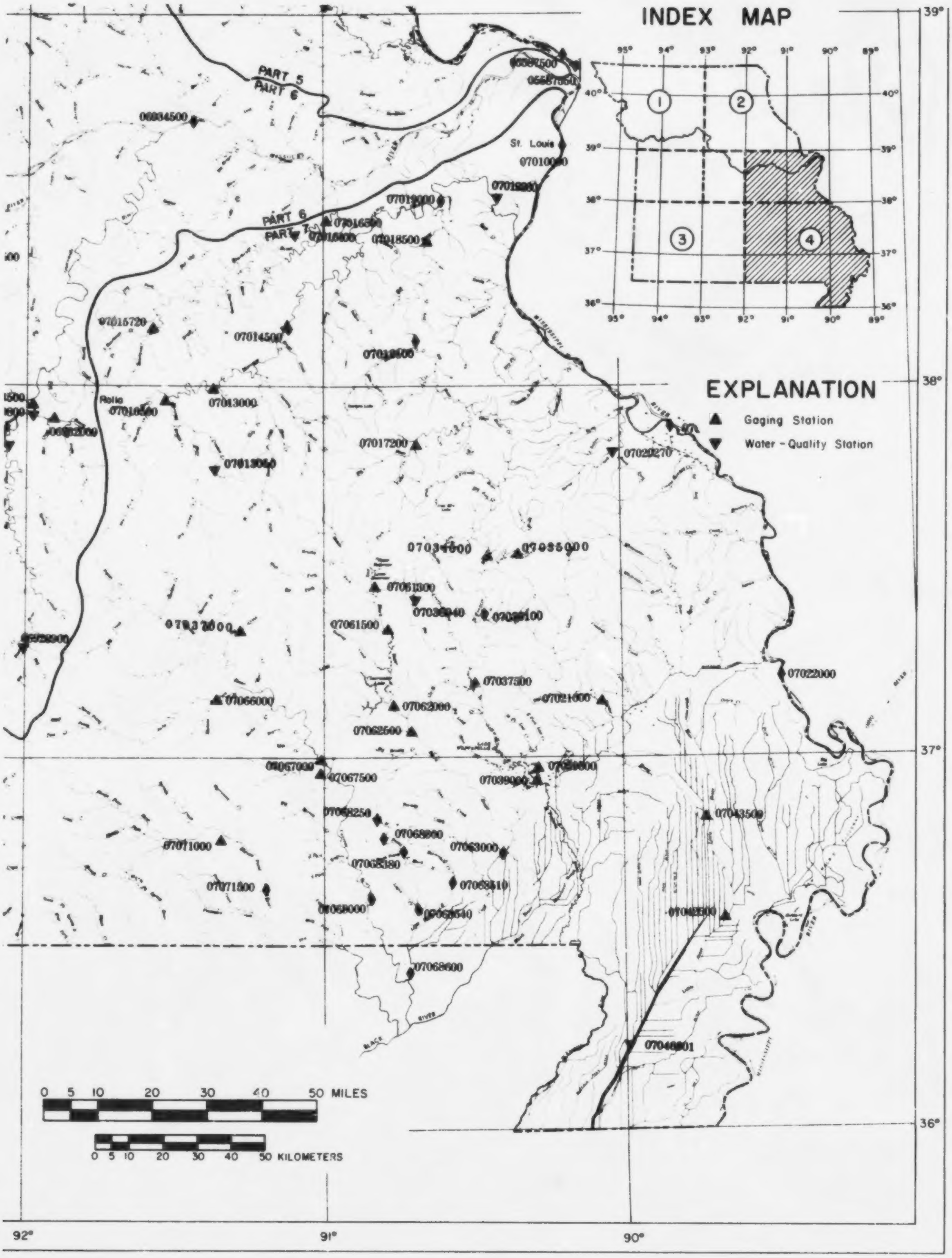
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October 1, 1978

FACTORS FOR CONVERTING INCH-POUND UNITS TO INTERNATIONAL SYSTEM UNITS (SI)

The following factors may be used to convert the inch-pound units published herein to the International System of Units (SI). This report contains both the inch-pound and SI unit equivalents in the station manuscript descriptions.

Multiply inch-pound units	By	To obtain SI units
	Length	
inches (in)	2.54×10^{1}	millimeters (mm)
	2.54×10^{-2}	meters (m)
feet (ft)	3.048×10^{-1}	meters (m)
miles (mi)	1.609×10^{0}	kilometers (km)
	Area	
acres	4.047×10^{3}	square meters (m^2)
	4.047×10^{-1}	square hectometers (hm^2)
	4.047×10^{-3}	square kilometers (km^2)
square miles (mi^2)	2.590×10^{0}	square kilometers (km^2)
	Volume	
gallons (gal)	3.785×10^{0}	liters (L)
	3.785×10^{0}	cubic decimeters (dm^3)
	3.785×10^{-3}	cubic meters (m^3)
million gallons	3.785×10^{3}	cubic meters (m^3)
	3.785×10^{-3}	cubic hectometers (hm^3)
cubic feet (ft^3)	2.832×10^{1}	cubic decimeters (dm^3)
	2.832×10^{-2}	cubic meters (m^3)
cfs-days	2.447×10^{3}	cubic meters (m^3)
	2.447×10^{-3}	cubic hectometers (hm^3)
acre-feet (acre-ft)	1.233×10^{3}	cubic meters (m^3)
	1.233×10^{-3}	cubic hectometers (hm^3)
	1.233×10^{-6}	cubic kilometers (km^3)
	Flow	
cubic feet per second (ft^3/s)	2.832×10^{1}	liters per second (L/s)
	2.832×10^{1}	cubic decimeters per second (dm^3/s)
	2.832×10^{-2}	cubic meters per second (m^3/s)
gallons per minute (gal/min)	6.309×10^{-2}	liters per second (L/s)
	6.309×10^{-2}	cubic decimeters per second (dm^3/s)
	6.309×10^{-5}	cubic meters per second (m^3/s)
million gallons per day	4.381×10^{1}	cubic decimeters per second (dm^3/s)
	4.381×10^{-2}	cubic meters per second (m^3/s)
	Mass	
tons (short)	9.072×10^{-1}	megagrams (Mg) or metric tons